Assessment of Egypt's Agricultural Sector Competitiveness

Volume III: Presentations Made by the Assessment Team

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OBJECTIVES OF THE PRESENTATIONS

USAID / Egypt arranged for members of the Assessment Team to make a number of presentations during the course of their work. The audience for these presentations was senior officials from the Government of Egypt and USAID staff.

The objectives of these presentations were:

- To underline the importance of the agricultural sector to Egypt's economic development;
- To explain the Team's approach, work and progress;
- To stimulate group discussion of its findings and conclusions;
- To elicit the viewpoints and ideas of audience members, particularly those representing the Government of Egypt; and
- To build consensus for the Team's final set of recommendations.

Presentations were held at the USAID Mission on March 26 and April 11. The April 18 presentation was held at AGERI.

This Annex contains the graphics used by the Team in these presentations.

MARCH 26 PRESENTATION

Assessment of Egypt's Agricultural Sector Competitiveness

Stakeholder Briefing
Cairo, Egypt
March 26, 2002

Presented by

William Fisher, Team Leader
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Part One: Introduction

- The Development Domain in Egypt
- USAID/Egypt Results Framework
- Shared GOE/USAID Objectives
- Scope of this Assessment
- Methodology

The Development Domain: Economic Overview

- Population of 63.8 million (2000), 1.9% growth rate, with downward trend
- GDP
  - 4.4% average annual growth in Nineties
  - $98.7 billion in 2000 (up 5.1% from prior year)
  - 4.1% growth estimated for 2001
  - 5.5% growth estimated for 2000-2004
- Real Per Capita GDP
  - 2.4% average annual growth in Nineties
  - $1,508 in 2000 (up 3.2%), so "lower middle income country"
  - 3.9% growth estimated for 2000-2004
- Inflation
  - 8.4% average in Nineties; 5.0% estimated for 2001

The Development Domain: Egyptian Foreign Trade

- Balance of trade was negative throughout Nineties
- Exports of goods and services in 2000 amounted to $14.6 B, equivalent to 16.1% of GDP
- Imports of goods and services in 2000 amounted to $21.2 B, equivalent to to 21.7% of GDP

Source: WTO, International Trade Statistics, 2001

The Development Domain: Egyptian Foreign Trade

- Merchandise Exports (not among top 50 in world)
  - $4.7 B in 2000 (up 31.8%%)
  - 6% average annual growth 1990-2000
- Merchandise Imports (ranked #34 in world)
  - $14.0 B in 2000 (down 13%)
  - 5% average annual growth 1990-2000
- Services Exports (ranked #30 in world)
  - $9.7 B in 2000 (up 4%)
  - 7% average annual growth 1990-2000
- Services Imports (ranked #37 in world)
  - $7.2 B in 2000 (up 20%)
  - 8% average annual growth 1990-2000

Source: WTO, International Trade Statistics, 2001

The Development Domain: Investment in Egypt

- Gross Domestic Savings in 2000: 17.3% GDP
- Gross Domestic Investment in 2000: 23.9% of GDP
- Ratio of Private Fixed Investment to Gross Fixed Investment in 1998: 67.5%
- Foreign Direct Investment (FDI) in 1999 was $1.065 B, which amounted to 2/3 of the total for middle-developed Middle Eastern and North African countries, and the highest single country, yet it was still just 50% of PPP GDP (Bolivia's FDI was 550% of PPP GDP)

Source: World Bank," Development Indicators 2001"

2000-2009 USAID/Egypt Results Framework

Interpretation:

☞*"Despite the respectable levels of growth and good performance on a number of macro indicators, Egypt has been less successful in reducing poverty"*

Source: USAID/Egypt, "2000-2009 Strategy Introduction"

2000-2009 USAID/Egypt Results Framework

Goal:

☞*Promote a globally competitive economy benefiting Egyptians equitably*

Source: USAID/Egypt, "2000-2009 Strategy Introduction"

2000-2009 USAID/Egypt Results Framework

Changes in Availability of Resources:

☞*Five percent annual reduction in assistance levels*

☞*Reduction in U.S. direct hire and foreign national positions*

Source: USAID/Egypt, "2000-2009 Strategy Introduction"

2000-2009 USAID/Egypt Results Framework

Implications for Strategy and Programming:

☞*Focus on fewer sectors*

☞*Focus on sustainability of past and future achievements*

☞*Less management-intensive implementation approaches and mechanisms*

☞*Focus on activities that promote trade and investment*

Source: USAID/Egypt, "2000-2009 Strategy Introduction"

2000-2009 USAID/Egypt Results Framework

Change of Focus in Development Assistance:

☞From aid to trade and investment

Source: USAID/Egypt, "2000-2009 Strategy Introduction"

2000-2009 USAID/Egypt Results Framework

The Critical Role of Investment:

- ☞Foreign and domestic investment is critical to expanding exports, accelerating economic growth, generating jobs, and spreading benefits
- ☞Domestic savings and investment have been chronically low
- ☞Policy and institutional reform still needed

Source: USAID/Egypt, "2000-2009 Strategy Introduction"

2000-2009 USAID/Egypt Results Framework

Strategic Objective 16: *Environment for Trade and Investment Strengthened*

IR 16.1 Policy Framework for Trade and Investment Improved

IR 16.2 Private Sector Competitiveness Increased

IR 16.3 Opportunities for Business Growth Enhanced

Source: USAID/Egypt, "2000-2009 Strategy Introduction"

Shared GOE/USAID Objectives: Enhanced Competitiveness

- *At the country level*: **"ability of a nation to meet the test of free international markets while expanding real incomes at home"** (Porter, 1990)
- *At the industry level*: **collective capacity to anticipate, cause or exploit changes in products, processes, the enabling environment, and the marketplace**
- *At the firm level*: **ability to protect and expand share of market while moving up the value chain and maintaining an acceptable return on investment**

Shared GOE/USAID Objectives: Enhanced Productivity

"The central issue in economic development is how to create the conditions for rapid and sustained productivity growth"

Source: Michael Porter, "The Microeconomic Foundations of Economic Development" Global Competitiveness Report 1998, Harvard Business School

On the Matter of Productivity

- Productivity has two parts:
  - The value (prices) that a nation's products command in the marketplace, and
  - The efficiency (costs) with which standard units are produced
- Factor productivity, which is the revenue produced per unit of labor or capital, sets the wages that can be sustained, the returns to invested capital and the net surplus generated by a nation's physical resources

Source: Michael Porter, "The Microeconomic Foundations of Economic Development" Global Competitiveness Report 1998, Harvard Business School

Shared GOE/USAID Objectives: More and Better Jobs

- Total work force 1997/98
  - Total workforce of 17.358 million, up 2.77% per year last 5 years
  - 15.825 million employed that year, 1.533 million (8.8%) unemployed
- An estimated 700,000 new jobs are needed each year
- Agricultural work force in 1997/98 as per MALR
  - 4.82 million people (29% of total work force)
  - 2.86% annual increase previous 5 years, higher than total growth, implying that agriculture is absorbing labor slightly faster than the overall growth in the work force
- Very high illiteracy rates remain a major constraint
  - 45% of population 15+ years old is illiterate
  - 37.4% (>1/3) of the adult male population is illiterate
  - 63.6% (almost 2/3) of the adult male population is illiterate
  - 65% (almost 2/3) of the rural population is illiterate

Shared GOE/USAID Objectives: Improved Rural Incomes/Poverty Alleviation

- Population below $1/day poverty line (1995-96): 23.3%
- Percent of poor living in rural areas (1995-96): 57.2%
- Rural poor receive 60% of income from non-farm sources
- Government wages provide 43% of rural non-farm income
- Land ownership: (IFPRI 1997)
  - 75.7% were reported as not owning land
  - 61.6% were reported as not having access to land
- Inequality: (World Bank 2001)
  - Gini coefficient for per capita rural income: 0.532
  - Gini coefficient for rural land ownership: 0.5

Shared Objectives: More Effective Public-Private Partnership

- Economic Actors (for-profit businesses)
  - Direct
  - Indirect
- Non-economic Actors (not-for-profit)
  - Public sector
  - Civil society organizations

Shared Objectives: More Effective Public-Private Partnership

Ineffective Dialogue	Effective Dialogue
• Individual company	• Industry clusters
• Ad hoc complaints	• Comprehensive vision
• Operational level	• Strategy level
• Laundry lists	• Collective priorities
• Anecdotal evidence	• Data and analysis
• Concessions	• Co-responsibility
• Opposite side of table	• Same side of table

Source: Ken Lanzas (USAID/Global/EE), Presentation "Building Competitive Advantage in Nations", June 2001

These Objectives Present an Important Development Challenge

☞ Maximize the contribution of the agricultural sector to overall economic growth

☞ Thereby creating employment and income (especially for the poor)

Tasks Requested of the Assessment Team

1. Review USAID interventions and assistance mechanisms, past and present
2. Identify agricultural growth scenarios
- Define two to four alternative scenarios
- Select the scenario that best contributes to competitiveness, investments and exports
- Identify constraints and opportunities
3. Identify public/private roles and means of achieving them
4. Identify and prioritize alternative options for USAID in context of limited staff, declining budget

Assessment Methodology

1. Develop a working outline based on terms of reference
2. Focus initially on key commodities and product groups, adopting a supply chain perspective, in order to assess past performances, continuing constraints and opportunities
3. Review publications from/about all relevant programs and projects, past and present
4. Prepare draft conceptual piece to explain how agriculture-led growth works
5. Define procedures and criteria for evaluating alternative growth scenarios
6. Reach internal agreement and with USAID counterparts on how alternative growth scenarios are to be handled

Assessment Methodology (cont.)

7. Interview key informants at USAID, MALR, relevant on-going projects, agricultural sector associations, agricultural commodity councils, private companies
8. Hold interim briefing with USAID and GOE counterparts to raise and resolve questions, begin building consensus
9. Prepare draft reports for the industries or commodity groups considered to be high priority
10. Exchange drafts internally for peer review, comments
11. As needed, do additional fact-finding or analysis
12. Submit revised industry/commodity reports to COP
13. Circulate them within the team

Assessment Methodology (cont.)

14. Make revisions to supply chain reports as needed
15. Synthesize opportunities, constraints, mitigating measures, suggested development interventions, and projected impacts
16. Formulate 2-4 alternative scenarios based on different mixes of priority commodities or products, as well as different mixes of interventions
17. Analyze pros and cons of alternatives, then prioritize
18. Identify cross-cutting themes relating to policy and enabling environment
19. Package priorities, interventions, scenarios and strategies for presentation to USAID and other stakeholders

Assessment Methodology (cont.)

20. Make summary presentation
21. Digest feedback obtained from meeting
22. Adjust final report as necessary
23. Resubmit report and annexes in final form

Part Two: Agriculture-led Growth

- The Role and Importance of Agriculture
- Dealing with Trade-offs
- Maximizing Returns from Development and Private Investment in Agriculture

Why Focus on Agriculture?

- It is a sector in which Egypt has some international comparative advantage
- It's already a major contributor to GDP
- Important source of foreign exchange
- Main economic activity in rural areas
- Plays key role in income generation, employment, poverty alleviation and food security

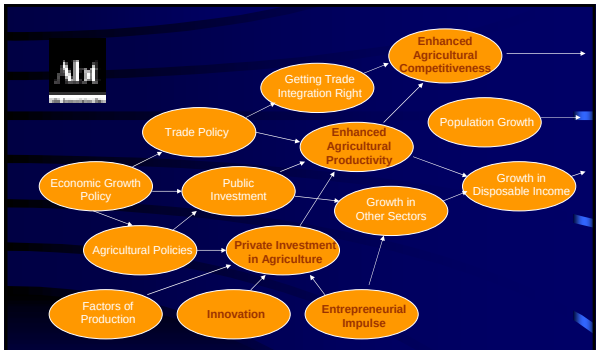
Why Focus on Agricultural Trade?

- Effective demand within Egypt is not large enough to support its ag sector
- There are opportunities to grow in volume, value, domestic value-added
- Export success leads to innovation and higher productivity in local agriculture
- Egypt is not now and never will be self-sufficient in food so imports are needed

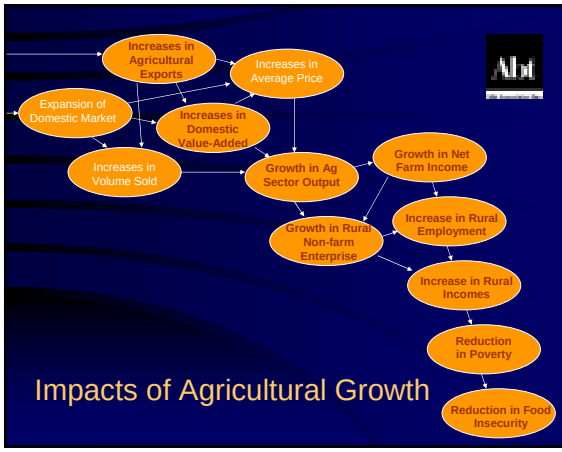
From the perspective of USAID/Egypt strategy, agriculture should be very important, because...

"Capital-intensive and import substituting growth has generally not been effective in alleviating poverty; agricultural growth, where there is a low concentration of land ownership and labor-intensive technologies are used, has almost always helped alleviate poverty"

Source: Gaiha,1993; Datt and Ravaillion, 1998



Determinants of Agricultural Growth



Impacts of Agricultural Growth

Multipliers: What are the usual indicators?

- Outside changes in output derived from the economic activity being considered
- Income earned by households because of new outputs
- Value-added* generated from production of new outputs
- Employment expected because of new outputs

*Value-added includes employee compensation, proprietary income, other property-related income, indirect business taxes

Multipliers: What types of impacts to measure

- Direct: e.g. value at farm-level
- Indirect: e.g. business spending
- Induced: e.g. household spending

Part Three: Agriculture in Egypt

- Overview of the Sector
- Structure of Agricultural Production
- Trends in Agricultural Trade
- Selected Subsectors and Supply Chains
  - Fish
  - Livestock, Meat and Dairy
  - Cereals
  - Cotton
  - Horticulture
  - Food Processing

The Agricultural Domain

- Agriculture contributed 16.6% of GDP in 2000, as compared with 19.4% in 1990
- Agricultural output grew 3.4% in 2000, as compared with 3.1% growth per year between 1990 and 2000
- Agricultural trade
  - Exports:16.6% of merchandise exports in 2000 vs. 19.2% in 1990
  - Imports: 27.2% of merchandise imports in 2000 vs. 38.6% in 2000
- Agricultural work force 1997/98
  - 4.82 millions (29% of total work force)
  - 2.86% annual increase previous 5 years, higher than total growth, implying that agriculture is absorbing labor slightly faster than the overall growth in the work force

Changing Structure of Agricultural Output in Egypt

Data on 1990 Value of Crop, Livestock, Fish and Forestry Needed to Complete Pie Chart

Data on 2000 Value of Crop, Livestock, Fish and Forestry Needed to Complete Pie Chart

1990 **2000**

Changing Structure of Livestock Production in Egypt

Data on 1990 Value of Major Livestock Products Needed to Complete Pie Chart

Data on 2000 Value of Major Livestock Products Needed to Complete Pie Chart

1990 **2000**

Changing Structure of Crop Production in Egypt

Data on 1990 Value of Major Crops Needed to Complete Pie Chart

Data on 2000 Value of Major Crops Needed to Complete Pie Chart

1990 **2000**

Egyptian Cotton Exports by Destination

(volume in kg)

COUNTRY NAME	90	91	92	93	94	95	96	97	98	99	2000	Average
BRAZIL		101898		387106		720375	174522		471648	2695879	1562955	873483
GERMANY	12403	167178	2513220	19827435	8919033	2929083	607359	378063	2495052	2311532	902340	3732973
GREECE	12821	74154	225654	1828859		1573758	1352112	587877	2416156	4097491	2175201	1434408
INDIA					25895301	8977479	411366	1456356	10385985	18100492	5236097	10066154
ITALY	44950	967164	2811447	8977579	8052543	12868575	3713412	2843301	19349390	29303778	16866698	9618076
JAPAN	146242	2380068		3619747	6002598	8127156	5203683	100725	4620463	6830408	771304	3780239
SOUTH KOREA	49067	1870017		3251714	10077804	7783722	4433481	1438455	1333988	10516446	2510189	4326488
THAILAND	6588	24735		297330	4237284	1370676		73185	1039295	4037480	2155056	1471292
TURKEY	13380		299704	3107365	10394004	9123645	2477019	553860	8914592	16078883	3745654	5470811
U.S.A.			3822571	10997738		502911	1398063		2562143	4981277	3750916	4002231

Top Trading Partners On Average: India, Italy, Turkey, South Korea, USA, Japan, Germany

Top Trading Partners in 2000: Italy, India, USA, Turkey

Egyptian Rice Exports by Destination

(volume in kg)

COUNTRY NAME	1990	1991	92	93	94	95	96	97	98	99	2000	AVERAGE
ALBANIA	749995	8904750	1000000	1560000	601380	1500000	14120020	3065368	10588000	6501540	3050000	4694641
ARAB EMIRATES	348000	656000	3332000	1113985	412000	1520170	3103000	3132450	4093085	6194169	3952330	2532472
BULGARIA		3700000				740000	17605800	5670100	16880764	10463000	1769040	8118386
JORDAN		25709020	29352250	30000	3264000	7200000	53618000	4517400	26746671	23040557	10877946	18435584
SAUDI ARABIA	760980	5880000	4629940	3746450	6805485	4619540	12442560	1411500	11320991	4818100	11441985	6170685
LEBANON REPUBLIC		4025500	13528000	9086000	14341657	6948400	11487025	13669100	15522800	10149058	8849870	10760741
LIBYA ARAB REPUBLIC	3747000	1000000	45782450	88000	7315863	21000000	15500000	1750000	16540000	1276000	71858000	16896119
ROMANIA	5500000	15000000	23387230	7050000	492550	20393800	46941195	3065368		55642200	39268253	21674060
SUDAN REPUBLIC		4210000	6217000	61763375	11013000	13248275	26554495	13327325	33478267	11844794	23033112	20468964
SYRIA ARAB REPUBLIC	664000	2255000	40404500	500000	99569500	60138980	48686325	41667950	46714500	62668915	88533920	44709417
TURKEY	32000000		5568000	16347000	72425500	10681050	26937560	46616850	112077387	64543200	65548600	45274515

Top Trading Partners On Average: Turkey, Syria, Sudan, Romania, Jordan

Top Trading Partners in 2000: Syria, Libya, Turkey, Romania, Sudan

Egyptian Potato Exports by Destination

(volume in kg)

COUNTRY NAME	90	91	92	93	94	95	96	97	98	99	2000	Average
ARAB EMIRATES	893662	787905	995080	498850		2145819	198074	880275	406632	1200060	2143500	1014986
FRANCE	7151920	11056475	7647865	6087025	668075	25614970	23732825	1710952	869000	15340	19689	7688558
ITALY	1153000	1804000	1389600	3923288	1653275	32170496	36886770	18537316	18388800	33040306	37726450	16970300
JORDAN	770325	165800	1608180		20000		35720	139950	156000		108014	375499
SAUDI ARABIA	20700984	28982278	35617420	9801157	5714145	4164876	257360	1858184	281560	446400	116700	9812824
LEBANON	3278740	3382240		17744181	18359338	50486253	32900750	33546197	32629756	29783331	32824900	25493569
NETHERLANDS	610475	1031720	6860170	276490		860805	4237480	1224800	2932430	3661260	3121640	2481727
QATAR	324400	352038	567914	15000	291392	410795	50000	40000	134030	17584	20000	202105
KUWAIT	4559313	289800	3472142	1593608	3293301	3725686	1768252	2778132	2938354	2093642	4098921	2782832
UNITED KINGDOM	86611185	95591282	71080000	68882320	57954530	101360735	89877353	64788851	55628169	46995917	24847134	69419771

Top Trading Partners On Average: Lebanon, Italy, Saudi Arabia, France,

Top Trading Partners in 2000: Italy, Lebanon, Kuwait, Netherlands

Egyptian Horticultural Exports to the EU in 2000

1000 ECU	France	Netherlands	Germany	Italy	UK	Greece	Spain	Belgium	Finland	Austria	TOTAL
CUT FLOWERS	29	40		449		1					519
VEGETABLES	4657	14407	15777	19376	17923	5442	442	2747	15	645	81431
FRUITS		33	13	23	19	37		8		41	174
ORANGES	36	162	70		3768			604			4640
MEDICINALS	566	2371	7512	2483	1908	760	1337	712	14	58	17721
TOTAL	5288	17013	23372	22331	23618	6240	1779	4071	29	744	104485

Top Trading Partners: UK, Germany, Italy and Netherlands (but last 2 are probably ports of entry more than final destination of export sales)

Top Product Groups: Vegetables, Medicinal Plants, Oranges

Part Four: The Global Context

- ➢Economic Globalization
- ➢Trade in Agriculture and Food
- ➢Megatrends in the Food Industry
- ➢What It All Means for Egypt Agriculture

Why Global Trade Matters to Egypt

- "Rising share of exports in GDP is associated with faster growth" (GEP 2002)
- "Among all developing countries, successful integrating countries…grew faster" (Dollar, 2002)
- "In globalizing economies the poor participate in stronger growth" (GEP 2002)
- "Increases in exports and agricultural production go hand in hand" (GEP 2002)

Global Trade Trends

- Global merchandise trade in 2000 rose 12.5% to US$6.2 trillion, while merchandise output rose 4.5%, both rates being the strongest in a decade
- Global services trade in 2000 rose 6% to US$1.4 trillion, a rate similar to the decade average
- As world trade growth exceeded world output growth, the ratio of trade in goods and services to world GDP reached 29%, which was 10 percentage points higher than in 1990
- While a severe downturn did occur in 2001, the long-term trend remains very encouraging

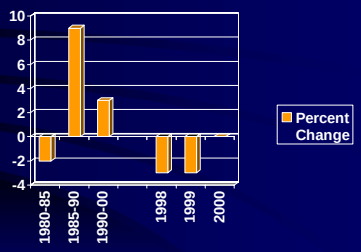
Source: IMF, Global Economic Prospects 2002

Agriculture's Share of World Trade

	Value 2000	Share 1990	Share 2000	Avg. Growth 1990-2000
Agriculture	$558B	12.2%	9.0%	3%
Food	$442B	9.3%	7.2%	3%
Raw Materials	$116B	2.9%	1.9%	2%

Source: WTO, "International Trade Statistics 2001"

World Trade in Food Grew in the Nineties, but Slowed in Recent Years



Source: WTO, "International Trade Statistics 2001"

The Importance of Eliminating Remaining Policy Distortions

- **Eliminating global agricultural policy distortions would:**
  - **-Raise world welfare $56 billion annually**
  - **-Raise world agricultural prices 12 percent**
- **Roles of policies in reducing world prices:**
  - **-Tariffs (52%)**
  - **-Domestic subsidies (31%)**
  - **-Export subsidies (13%)**

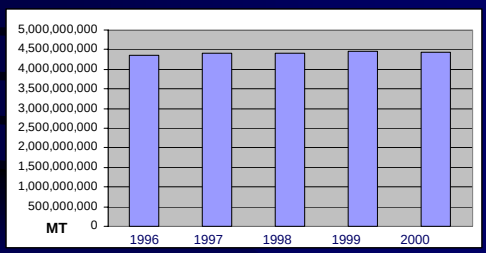
Source: USDA/ERS, "Agricultural Policy Reform in the WTO: The Road Ahead", 2001"

Agricultural Trade Trends

- On the average, agricultural trade increased modestly in overall value during the Nineties, despite a long-running decline in most commodity prices
- Only a few commodities account for a large share of agricultural trade
- The composition of trade in crops has been shifting from bulk (raw) commodities toward semi-processed products and consumer-oriented food products.
- Nine of the top ten fastest growing items are not raw products.
- Bulk commodities are the slowest growing component of world agricultural trade.

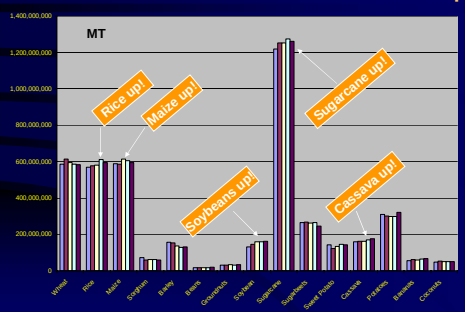
Source: USDA/ERS, "Changing Structure of Global Food Consumption and Trade", 2000

Overall World Production of the Top 15 Food Crops has been Flat...



Source: FAOSTAT Agricultural Database, November 2001

…Despite Variations in Average Production for Individual Crops



Source: FAOSTAT Agricultural Database, November 2001

Top Ten Tradables in 1998

Ranked by Value

- Wheat (US$B 14.8)
- Green Coffee ($12.5B)
- Soybeans ($9.7B)
- Rice ($9.3B)
- Prep. Food ($9.2B)
- Cotton Lint ($8.9B)
- Corn ($8.7B)
- Cigarettes ($7.9B)
- Soya Cake ($7.8B)
- Wine ($7.4)

Source: FAOSTAT

Ranked by Growth Rate

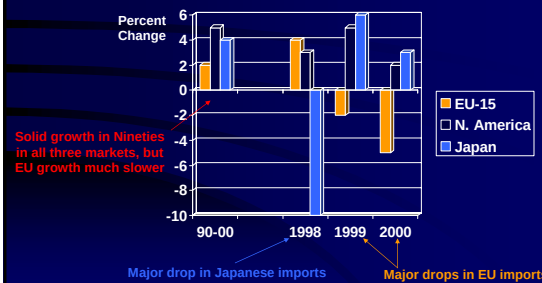
- Pet Food up 23.3%
- Pastry up 10.6%
- Chocolate Prod. up 10.1%
- Prepared Food up 9.5%
- Grapes up 8.8%
- Cigarettes up 7.9%
- Palm Oil up 7.5%
- Wine up 6.0%
- Beef & Veal up 5.7%
- Bananas up 5.5%

Agricultural Trade Trends (cont.)

- Overall, developed countries dominate agricultural trade, accounting for more than 70% by value
- Most growth in consumer processed trade comes from the developed countries, and their share is growing
- Developing countries play a much greater role in bulk commodities
- Developed countries imported 75% of global meat imports in 1998, and their share is rising
- Imports of animal feeds have shifted away from developed countries and toward developing countries
- Although increased consumption of livestock products comes with higher income, imports do not always follow

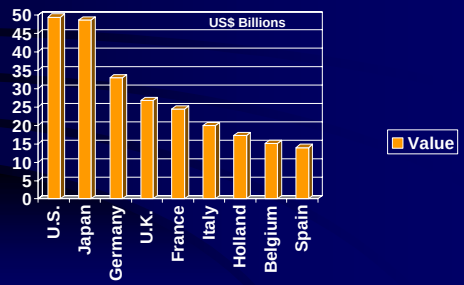
Source: USDA/ERS, "Changing Structure of Global Food Consumption and Trade", 2000

Imports of Food into the Major Markets Can Vary a Lot Each Year...



Source: WTO, "International Trade Statistics 2001"

…Yet the U.S. and Japan Remain the Largest Importers by Far



Source: WTO, "International Trade Statistics 2001"

On a Net Basis, the EU-15 is Similar in Size of Market to the U.S. and Japan Alone

EU-15 Food Imports in 2000

Total	$182.89 B
less Intra-EU	133.40 B
=Extra-EU	$49.49 B

$49.36 B = U.S. Imports

$48.58 B = Japan's Imports

Income Effects on Agricultural Trade

Elasticities	Grains	Livestock	Horticulture	Other
MENA	0.404	0.704	0.528	0.595
Western Europe	0.065	0.738	0.452	0.568
U.S.A.	0.010	0.814	0.547	0.665
Japan	0.032	0.727	0.428	0.550

Source: USDA/ERS, "Changing Structure of Global Food Consumption and Trade", 2000"

Part Five: Global Competitiveness in Agriculture

- Development Lessons Learned
- The Pathway to Competitiveness
- Potential Areas of Intervention

Minimum Conditions Needed to Take Advantage of Reforms

1. Reforms must be substantial, well implemented, and sustained
2. There must be reasonably efficient markets
3. Adequate infrastructure is needed
4. Mechanisms to acquire and distribute information on opportunities & technologies must exist
5. There must be adequate human capital able to absorb new technology, to exploit opportunities
6. Public sector has a key role in terms of tax incentives, economic stability, efficient legal and regulatory environment, politically and militarily secure society within which business can flourish

Stryker and Pandolfi, "Effects of Policy Reform on Investment, Trade and Growth in Sub-Saharan Africa", 2000

Findings from the Literature

"Success in integrating into the world economy is not universal in part because not all countries reformed trade policies sufficiently, but also because many complementary policy reforms are required to support trade reforms. Measures to create an enabling environment for supply-side responses to changed incentives are need".

Dr. Bernard Hoekman, Center for Economic Policy Research, World Bank

Findings from the Literature

"Without micro reforms, growth in GDP induced by sound macro policies will be unsustainable and will not translate into improvements in GDP per capita"

Source: Michael Porter, "Global Competitiveness Report", 2000

(In other words, "getting prices right" and "getting integration right" are not enough)

Productivity Must Change at the Level of Individual Enterprises

"While sound political/legal structures and macroeconomic policies create the potential, actual productivity will only increase if the nation improves its capabilities at the microeconomic level"

Source: Michael Porter, "The Microeconomic Foundations of Economic Development" Global Competitiveness Report 1998, Harvard Business School

With Globalization, Development Now Depends on Competitive Advantage

"Economic development requires a transformation of the types of competitive advantages a nation's companies enjoy in international markets"

Source: Michael Porter, "The Microeconomic Foundations of Economic Development" Global Competitiveness Report 1998, Harvard Business School

The Key to Success in a Global Economy is Changing

"Advantages must shift from comparative advantages such as low-cost labor or natural resources to competitive advantages due to unique products or processes".

Source: Michael Porter, "The Microeconomic Foundations of Economic Development" Global Competitiveness Report 1998, Harvard Business School

The Basis for Success Changes as Markets Mature

- Less developed economies = Production and distribution
- More developed economies = Marketing, logistics and service
- Developed economies = Product development, service delivery, information management

Types of Transformation Needed at the Enterprise Level

- Shifting goals and mindset
- Building strategy around commitments to industry
- Raising operational effectiveness to world standards
- Widening advantages in the value chain
- Moving from opportunism to strategy
- Building brands
- Creating distinctive, long-term competitive positions
- Raising the investment intensity of competing
- Gaining direct contact with foreign customers and control of international distribution channels
- Expanding trade with neighboring countries

Source: Michael Porter, "The Microeconomic Foundations of Economic Development" Global Competitiveness Report 1998, Harvard Business School

The Food Industry Example

- As disposable income in Northern markets has risen, and the time available for consumers to buy, prepare and eat has fallen; and
- As food retailing chains have increasingly moved from competition based on price to other factors...

The Food Industry (continued)

- Consumer expenditures have increasingly been driven by quality, presentation, diversity, availability, convenience, information content, "greenness", ethics and excitement; and
- Major chains have put pressure on suppliers to enhance quality, offer year-round supply on a consistent basis, expand product offerings, improve packaging, certify production conditions, offer traceability.
- In recent years, not just food retailers, but their global supply chains have been doing battle.

Key Implications for Development Strategy

- Productivity is the main determinant of economic welfare (I.e. living standards)
- Reduce reliance on comparative advantage
  - ➢ Strive to create sustainable competitive advantage
  - ➢ Move toward higher value-added

Additional Strategy Implications

- Constraints and opportunities exist at all times in each step in the pathway
- That means that development interventions are also needed at each and every step
- Interventions that are limited to a single step, or particular elements in a given step, will have limited impact because the rest of the pathway remains unchanged and could offset the effects of change
- All interventions should be designed with a view toward upgrade the competitiveness of the country or industry
- Since competing countries and industries are involved in essentially the same process, the need to upgrade never ends

Constraints to Growth within Vertical Supply Chains

- ↑ Land
- ↑ Water
- ↑ Labor
- ↑ Planting/Breeding Stock
- ↑ Technology
- ↑ Production Financing
- ↑ Private Investment
- ↑ Sanitary/Phytosanitary
- ↑ Quality Assurance
- ↑ Producer Organization
- ↑ Post-harvest Handling
- ↑ Cold Chain
- ↑ Packing and Packaging
- ↑ Refrigerated Transport
- ↑ Market Information
- ↑ Market Linkages
- ↑ Generic Promotion

Cross-cutting Constraints to Agricultural Growth

- ➔Customs Administration
- ➔Transaction Costs
- ➔Transport Costs
- ➔Poor Implementation of Policy Reforms
- ➔Disincentives to Investment

Upgrading Factor Conditions: Areas of Potential Intervention

↗ Land

- Soil Conservation
  - Better drainage
  - Controlling salinity levels
  - Integrated pest management
  - Organic and biodynamic production technologies
- Increase in Cropping Intensity
  - Shorter-cycle crops
  - Better farming/cropping systems
- Shift to Higher Uses
  - High value crops
- Expansion of Agricultural Frontier via Reclamation
- Managing Conversion to Urban Use

Upgrading Factor Conditions: Areas of Potential Intervention

↗ Water

- Water Resources Policy and Planning
  - Source development (Nile=75% of availability, 82% of use)
  - Management of agricultural, municipal, industrial use
  - Water charges
- Irrigation Improvement (agriculture uses 81%)
  - Improvements in structures, equipment, systems, O&M
  - Better weed control
  - Shift in type of irrigation in favor or water-conserving technology
  - On-farm water management practices
  - Microbacteriological contamination, pesticide residues & runoff
- Changes in Cropping Systems
  - Development of short duration, high-yielding rice
  - **De-emphasize rice and sugarcane**

Upgrading Factor Conditions: Areas of Potential Intervention

↗ Labor

- Literacy in Rural Areas
- Practical Skills Training for workers on farms, in packing sheds
- Education and Training in Postharvest Handling
- Cold Chain Technology and Management Training
- Appropriate Handling and Application of Agrochemicals
- Worker Hygiene in the Field and in Plants

Upgrading Factor Conditions: Areas of Potential Intervention

- Capital
  - Credit Availability for Production, Processing, Export
    - Financial products
    - Delivery mechanisms
    - Terms and conditions of lending
  - Equity Investment in Agribusiness
    - Investor roadmap
    - Fiscal and other incentives
    - Formulation of bankable projects
    - Improvement in transparency and consistency of application of laws and regulations
    - Investment promotion

Upgrading Enterprises: Areas of Potential Intervention

- Technology Generation and Transfer
  - Plant Breeding
    - Development and testing of higher-yielding varieties
    - Rapid introduction, testing of imported cultivars
  - Agronomic Practices
  - Post-harvest Physiology and Handling Practices
  - Processing
  - Cooling and Refrigeration
  - Quality Assurance

Upgrading Enterprises: Areas of Potential Intervention

- Technology Utilization
  - Production
    - Use of higher yielding varieties, better stock
    - Increased mechanization
    - Laser land preparation
    - Improved cultural/husbandry practices (esp. EurepGAP)
  - Handling
    - Harvesting techniques/reduction in post-harvest losses
    - Cooling and storage management
    - Better packing, packaging and loading
  - Processing
    - Technology and equipment selection
    - Better process controls
    - GMP, HACCP, ISO 9001

Upgrading Enterprises: Areas of Potential Intervention

- Marketing
  - Strategic Market Analysis and Planning
  - Design and Execution of Marketing Strategies and Programs
  - Organization and Management of Domestic and International Sales Force, Overseas Representatives, Distributors
  - Management of the Marketing Mix
  - New Product Development
  - Competitive Intelligence
- General Management
  - Vision, Mission, Strategy Formulation
  - Organizational Development
  - Environmental Scans
  - Innovation

Upgrading Industry Clusters: Areas of Potential Intervention

- Inputs
  - Speed of Entry, Acceptance and Use of New Cultivars
  - Availability and Cost of other Required Inputs
- Supply Chain Enhancement
  - Schemes for Assembling Product and Ensuring Quality
  - Field Infrastructure and Equipment
  - Purchasing and Marketing Cooperatives
- Industry Organization
  - Agricultural Commodity Councils
  - Private Commodity-based Associations
  - Private Theme-based Associations (e.g. cold chain providers)
  - Exporter Association(s)
  - Improve Scale, Scope of Activities, Efficiency, Service Menu

Upgrading the Enabling Environment: Areas of Potential Intervention

- Business Environment
  - Improve Transparency and Consistency
  - Reduce the Number of Decision/approval Points (for the formation and operation of new enterprises, for import processing, and for exporting)
- Legal Environment
  - Complete Intellectual Property Rights Legislation and Apply it
  - Complete Plant Breeder Rights Legislation and Apply it
  - Improve Execution of Other Laws and Decrees
- Regulatory Environment
  - Continue Move toward Rules-based Trading System
  - Improve Food Safety Regulations and their Application

Upgrading the Policy Environment: Areas of Potential Intervention

- Macro-Economic Policies
  - Move toward more realistic exchange rate
  - Continue shift toward openness and pro-export bias
  - Improve inter-ministerial coordination
- Sector Policies
  - Phase out distortions that skew farming decisions away from crop and livestock activities that misallocate scarce resources
  - Continue withdrawal of public sector from productive enterprise
  - Continue liberalization in key commodities such as cotton
  - Rationalize investment in public infrastructure (especially water and irrigation, land reclamation, megaprojects, transport)
  - Decentralize and empower agricultural research to facilitate technology adaptation and transfer

Upgrading the Trading Environment: Areas of Potential Intervention

- Trade Agreements
  - Continue implementation of WTO Accession Agreement (especially with respect to TRIPS, domestic protection, export subsidies)
  - Continue implementation of EU-Mediterranean Partnership Agreement (especially with aim at eliminating tariffs and TRQs on all agriculture and processed food products)
- International Conventions
  - Pass UPOV-compliant law and enabling regulations to ensure Plant Breeders' Rights
  - Pass IPR legislation needed to facilitate entry of commercially-required seeds

Part Five: Alternative Growth Scenarios

- Apparent GOE Strategy
- What other International Donors are Doing
- What USAID Could Do

GOE Agricultural Strategy

- Growth Targets
  - Third Five-year Plan (1992-1997):
  - Fourth Five-year Plan (1998-2002):
    - 1998-2001: 3.4%
    - 2001-2002: 3.8%
  - Consecutive Plans (2003-2017): 4.1%
- Tentative Emphasis for the Future
  - Technology transfer and utilization, especially in biotechnology
  - Mechanized agriculture, appropriate to structure of land holdings in Egypt and socio-economic conditions

Relevant Activity by Other Donors

- World Bank
  - Integrated Irrigation Improvement Project
  - Poverty Reduction Strategy Plan?
  - Integrated Framework for Trade Development?
  - Export Agriculture Competitiveness Project?
- EU
  - Industrial Modernization Plan (focuses on food processing, textiles)
- Germany (GTZ)
  - Egyptian-German Cotton Sector Promotion Programme
- United Kingdom (DFID)
  - ???
- IFAD
  - New Lands ag tech transfer project (exact name?)

What USAID Might Do

1. Agricultural Policy Initiative
2. Technology and Innovation Initiative
3. Horticultural Development Initiative
4. Livestock/Dairy/Meat Development Initiative
5. Processed Foods Development Initiative

What USAID Might Do

1 Agricultural Policy Initiative

- a Improved Policy Analysis
- b Improved Policy Implementation
- c Enhanced Public-Private Dialogue
- d Monitoring and Verification
- e Research and Pilot Testing on Strategies for Enhancing Farm-Nonfarm Income and Employment

What USAID Might Do

2 Technology and Innovation Initiative

- a Continued Rationalization of Seed Industry
- b Expanded Use of Already Developed Higher-Yielding Varieties for Cereals
- c Alternative Models for Technology Transfer
- d Post-harvest Loss Reduction Program
- e Value-added Agriculture Development
- f Extension of Good Agricultural Practices with emphasis on IPM, food safety
- g Support for Organic and Biodynamic Ag

What USAID Might Do

3 Horticultural Development Initiative

- a Market Access/Information/Know-how
- b EurepGAP Compliance
- c Association Development
- d Commercial Farmer
- e Enhancement of Small Farmer Participation
- f Linkages to Processing Industry

What USAID Might Do

4 Livestock/Dairy/Meat Development Initiative

- a Smallholder Dairy Husbandry Improvement
- b Broiler Meat and Eggs for Import Substitution and Export to Gulf
- c Live and Halal Processed Sheep & Goats for Export to Saudi Arabia and Other Gulf
- d Water Buffalo Improvement
- e Animal Feed Industry Development

What USAID Might Do

5 Processed Foods Development Initiative

- a Continuation of support to processed food industry in strategy, product and process upgrading, HACCP/GMP/ISO 9001 adoption, export market development
- b Place additional emphasis on value-added and consumer-oriented products

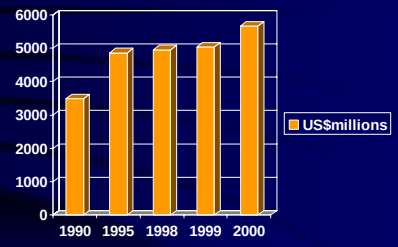
Notes on Adding Value

- Upgrade varieties used (e.g. better flavor or shelflife)
- Change production system (e.g. organic)
- Change time of harvest (e.g. forced flowering)
- Withhold product from market (via storage)
- Move product closer to end-market
- Add or upgrade stickers or labels
- Tighten quality standards
- Upgrade presentation (e.g. consumer packs)
- Upgrade shipping container (e.g. high graphics box)

Notes on Adding Value (cont.)

- Upgrade handling technology (e.g. pallets, bins)
- Use modified or controlled atmosphere technology to extend transit or shelf life
- Change product form (e.g. frozen vs. fresh)
- Transform the product (e.g. cutting, pre-cooking)
- Enhance convenience (e.g. mixes, complements)
- Add information (e.g. nutritive value, recipes, origin)
- Offer co-packing (e.g. private label)
- Differentiate (e.g. through branding)
- Improve service (e.g. communications, problems)

Saudi Arabia is the Largest Market (2/3 of total) for Agricultural Products in the Gulf...



…especially in rice, wheat, barley, corn, frozen poultry, live animals, packaged foods

…but the Saudi Market is Changing

- Agriculture is now more than 10% of non-oil GDP
- Government offers strong support, including major subsidies for sheep, poultry and dairy production
- Levels of self-sufficiency are rising fast: 88% in vegetables; 66% in fruits; 68% in broiler chickens; 46% in red meat
- Overall agricultural exports reached US$498 million in ‘98
- Saudi Arabia is now the world’s largest date producer, and it has begun exporting dairy and processed food products to other Gulf States

APRIL 11 PRESENTATION

Assessment of Egypt's Agricultural Sector Competitiveness

Stakeholder Briefing
Cairo, Egypt
April 11, 2002

USAID Objectives:

USAID Strategy is to promote a Globally Competitive Economy Benefiting Egyptians Equitably.

Goal of the Assessment:

To assist Egypt to promote a stronger agricultural sector characterized by strong backward links to input suppliers and forward links to consumers, strong institutions, a strong lobbying capability and, an ability to attract investments, fulfill its export potential and generate employment."

USAID's Four Tasks:

Task One:

"Review selected past and present USAID interventions and assistance mechanisms that promoted or promote a more competitive Agricultural Sector ".

Task II:

"Identify a) alternative growth scenarios for the sector and select the one that has the best chance to bring about increased agricultural sector competitiveness, strengthened agricultural investments and exports and b) key policy, institutional and technical constraints to achieving that scenario and key opportunities that need to be seized."

Task III:

"Identify appropriate roles for the public and private sector that address these constraints and how these public and private sector roles can be achieved."

Task IV:

" Assuming limited USAID staff and declining budget, identify and prioritize alternative options for USAID interventions in the next 5 years."

Team Focus:

- *Job-Creation*
- *Removing Policy Constraints*
- *Continuing Export Momentum*
- *Improving Quality: Export and Domestic Market*
- *Benefits to Rural Poor*

The Team:

- ***OBTAINED AND ANALYZED DATA.***
- ***ANALYZED DOCUMENTS.***
- ***INTERVIEWED PRIVATE AND PUBLIC SECTOR LEADERS AND BUSINESS ORGANIZATIONS.***

Analytical Framework: Commodity Analysis

- **CEREALS, INCLUDING WHEAT, RICE, MAIZE**
- **COTTON**
- **HORTICULTURE**
- **FISHERIES AND AQUACULTURE**
- **LIVESTOCK**
- **SUGAR**

For Each Commodity:

- **PRODUCTION**
- **PROCESSING**
- **MARKETING AND DISTRIBUTION**
- **EXPORTS AND IMPORTS**
- **COMPARATIVE AND COMPETITIVE ADVANTAGE**
- **OPPORTUNITIES FOR GROWTH**
- **SECTOR-SPECIFIC CONSTRAINTS**

Cross-Cutting Issues:

- *Policy Constraints*
- *Policy Implementation*
- *Exchange Rate*
- *Transportation*
- *Cold Chain*
- *Customs*
- *Market Information*

Finally:

- *Analyzed Employment and Income Impacts of Alternatives Initiatives.*
- *Developed Group of Possible Program Areas to Recommend to USAID.*

ALTERNATIVE GROWTH STRATEGIES

April 11, 2002

II *Table 1 Jobs Created in Egypt:*

Fast Growth Urban Sector, Fast and Slow Growth Rural Sector

Sector	GDP		Increment. Employ.		Employ. Differ.	Proportion of Employmt	
	Fast	Slow	Fast	Slow		Fast	Slow
Rural							
Agriculture	4.8	2.7	116	68		12	10
Rural Non-Farm	6.1	2.7	508	222	286	51	34
(Subtotal)	(5.5)	(2.7)	(624)	(290)	(334)	(63)	(44)
Urban							
Tradable	8.0	8.0	101	101	0	10	15
Non-Tradable	8.0	8.0	272	272	0	27	41
(Subtotal)	(8.0)	(8.0)	(373)	(373)	0	(37)	(56)
Total	(7.1)	(6.2)	(997)	(663)	(334)	100)	(100)

III
KEY POINTS FROM TABLE 1

1. **In fast growth throughout, agriculture accounts for only 26 percent of increments to GDP; but 63 percent of increments to employment**
2. **Nearly one fifth of the agriculture-based employment is directly in agriculture and nearly four fifths is in the rural non-farm sector.**
3. **Effective demand for rural non-farm sector is largely from farm incomes.**
4. **If agriculture grows only slowly, while the urban sector grows quickly:**
   a. Employment growth is reduced one third (334 thousand fewer jobs.)
   b. Urban share of increments to employment rises by 19 percentage points.
   c. Rural non-farm share of rural employment growth is sharply reduced by 17 percentage points.

IV

Table 2. Domestic Resource Cost, Selected Crops and Livestock.
1.World Bank numbers from early 1990's; Mission calculating new ones
2. Conclusions about the same
3. One or lower shows international comparative advantage

Crop or Livestock	Domestic Resource Cost
Cotton	0.4
Wheat	0.4
Maize	0.5
Berseem, Long	0.5
Berseem, Short	0.7
Potato	0.7
Rice	0.8
Sugarcane	1.2
Sugar Beef	0.6
Cattle, Buffalo	1.0
Cattle, Exotic	0.8
Poultry, home	1.0
Poultry, large scale	1.0
Cattle, Baladi	(high, explain

V

MAIN POINTS

1. Egypt has a comparative advantage in many commodities
2. Cotton has particularly strong comparative advantage
3. Not surprising – super good agricultural resources
4. Improved technology usually has largest impact where productivity already high

VI

Table 3. Agricultural Commodity Group Growth Rates and Sources of Growth, Fast Growth Scenario, Egypt. (all numbers are percent)

A. Tradable – International Price Driven

Source of Growth	Cotton	Cereals	Other Crops
Share of Agr. Value Added	6	23	16
Area (%)	3.6 1	5	-
Yield (%)	3.0	3.0	3.0
Quality (%)	2.5	-	-
Growth Rate (%)	9.1	1.5	3.0
Share of Growth	11	7	10

1Area grows by 9 percent per year (doubles in 8 years); but only net increase of 40 percent in value added per feddan after correction for reduction of crop due to transfer, e.g. from cereals to cotton (based on international prices.)

VII

Table 3. Agricultural Commodity Group Growth Rates and Sources of Growth, Fast Growth Scenario, Egypt.
(all numbers are percent)

B Non-tradable – Depend on Domestic Demand

Source of Growth	Horticulture	Livesotck/Fisheries
Share of Agr. Value Added	31	24
Population Growth (%)	2.2	2.2
Per Capita Income Growth	4.0	4.0
Income Elasticity	0.68	0.77
Growth Rate Demand	5.0	5.3
Export Share	10%	-
Export Growth Rate	25%	-
Overall Growth Rate	7.0	5.3
Area/Numbers Growth	3%	1.3
Yield/Productivity Growth	3%	4.0
Quality Improvement	1%	-
Share of Growth	45	27
total	7.0	5.3

VIII

MAIN POINTS

1. 4.8 percent growth rate essential to employment solution but difficult to achieve.
2. Growth rates for each component will be difficult to achieve.
3. Thus, difficult for shortfalls in one to be made up by others.
4. The priorities must be set within commodity groups.
5. Rapid agricultural growth requires demand growth in the urban tradable sector.
6. Agricultural exports also increase demand for agricultural non-tradable.
7. Exports only agricultural strategy faces two problems:
   a. **concentrates on only about 26 percent of the agricultural sector; and,**
   b. **export horticulture interacts with domestic supply horticulture**

IX

THREE LESSONS

1. Balanced growth is essential
2. Priorities are also essential, but must be within the broad sectors
3. The focus in agriculture must be on raising farm and therefore rural incomes –
   a. Competitiveness
   b. Cost of Production and Marketing

X

EXAMPLES OF WITHIN SECTOR PRIORITIES

1. Cotton
   a. Immense policy problems
   b. Need for intensive market development of extra long staple cotton
   c. Research to improve quality and raise yields
2. Cereals
   a. Urgent need for extension an d research to raise yields
   b. Remaining policy issues
3. Other Crops
   a. Research and extension to raise yields
   b. Setting priorities as to which crops to emphasize

XI

EXAMPLES OF WITHIN SECTOR PRIORITIES (Cont.)

4. Horticulture
   a. Continuing to facilitate private sector exports
   b. Research and extension to raise yields and reduce costs
   c. Improve domestic quality and marketing
5. Livestock
   a. Small holder animal productivity
   b. Small holder marketing productivity

What Will We Recommend?

- *Policy Reform, Greater Emphasis on Implementation.*
- *Help for Business Associations and NGOs*
- *Small-Holder Livestock Program*
- *Increased Domestic and Export Horticulture*
- *Improved Agricultural Marketing Systems*

Why These Choices?

Policy Reform,
Greater Emphasis On Implementation

Why These Choices ?

Small-Holder Livestock

Why These Choices?

Increased Focus on Domestic and Export Horticulture

Why These Choices?

Help for Business Associations, NGOs.

Why These Choices?

Improved Agricultural Marketing Systems

APRIL 18 PRESENTATION

Assessment of Egypt's Agricultural Sector Competitiveness

Pre-Report Briefing
Cairo, Egypt
April 18, 2002

Points of Departure

- USAID/Egypt Results Framework
- Purposes and Scope of Assessment
- Conceptual Framework

2000-2009 USAID/Egypt Results Framework

Goal:

- *Promote a globally competitive economy benefiting Egyptians equitably*

Source: USAID/Egypt, "2000-2009 Strategy Introduction"

2000-2009 USAID/Egypt Results Framework

Changes in Availability of Resources:

- *Five percent annual reduction in assistance levels*
- *Reduction in U.S. direct hire and foreign national positions*

Source: USAID/Egypt, "2000-2009 Strategy Introduction"

2000-2009 USAID/Egypt Results Framework

Implications for Strategy and Programming:

- *Focus on fewer sectors*
- *Focus on sustainability of past and future achievements*
- *Less management-intensive implementation approaches and mechanisms*
- *Focus on activities that promote trade and investment*

Source: USAID/Egypt, "2000-2009 Strategy Introduction"

2000-2009 USAID/Egypt Results Framework

Strategic Objective 16: Environment for Trade and Investment Strengthened

IR 16.1 Policy Framework for Trade and Investment Improved

IR 16.2 Private Sector Competitiveness Increased

IR 16.3 Opportunities for Business Growth Enhanced

Source: USAID/Egypt, "2000-2009 Strategy Introduction"

Why Focus on Agriculture?

- It is now and will likely remain the principal economic activity in rural Egypt
- It is a major contributor to GDP and exports and that contribution can be enhanced
- As opposed to other sectors, growth in agriculture has the greatest impact on employment and income, especially of the rural poor

The Development Domain: Agriculture in Egypt

- Agriculture contributed 16.6% of GDP in 2000, as compared with 19.4% in 1990
- Agricultural output grew 3.4% in 2000, as compared with 3.1% growth per year between 1990 and 2000
- Agricultural trade
  - Exports:16.6% of merchandise exports in 2000 vs. 19.2% in 1990
  - Imports: 27.2% of merchandise imports in 2000 vs. 38.6% in 2000

Tasks Requested of the Assessment Team

1. Review USAID interventions and assistance mechanisms, past and present
2. Identify agricultural growth scenarios
- Define two to four alternative scenarios
- Select the scenario that best contributes to competitiveness, investments and exports
- Identify constraints and opportunities
3. Identify public/private roles and means of achieving them
4. Identify and prioritize alternative options for USAID in context of limited staff, declining budget

Guiding Principles

1 Clarify relationships and causal linkages between strategic objectives, identify areas of intervention accordingly and assign priorities in light of limited resources

2 Preserve and build on prior USAID development investments

3 Continue to support export agriculture to help Egypt participate fully in the benefits of globalization

4 Seek ways to enhance small farmer involvement and more directly benefit the rural poor

Conceptual Framework

- What contribution can agriculture make to economic development in Egypt?
- What would be the principal components of a fast growth scenario?
- What are the implications for USAID's portfolio?

Shared GOE/USAID Objectives: More and Better Jobs

- Total work force 1997/98
  - Total workforce of 17.358 million, up 2.77% per year last 5 years
  - 15.825 million employed that year, 1.533 million (8.8%) unemployed
- An estimated 700,000 new jobs are needed each year
- Agricultural work force in 1997/98 as per MALR
  - 4.82 million people (29% of total work force)
  - 2.86% annual increase previous 5 years, higher than total growth, implying that agriculture is absorbing labor slightly faster than the overall growth in the work force
  - Ag institutions of all sorts provide 50-60% of all employment (RDI 1999)
- Very high illiteracy rates remain a major constraint
  - 45% of population 15+ years old is illiterate
  - 37.4% (>1/3) of the adult male population is illiterate
  - 63.6% (almost 2/3) of the adult male population is illiterate
  - 65% (almost 2/3) of the rural population is illiterate

to JM...

EMPLOYMENT AND AGRICULTURAL GROWTH: What does it mean?

Contributed by Dr. John Mellor

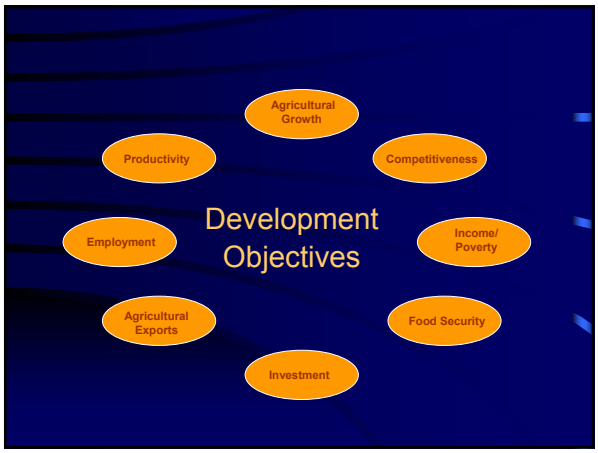
Note: See separate presentation entitled 41802Mellor.ppt

Abt Associates Inc

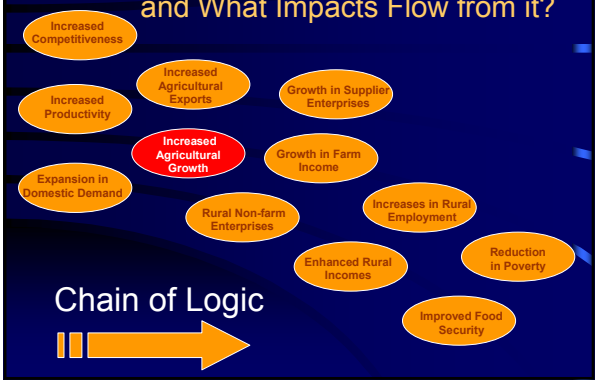
Clarifying and Ordering Objectives

- Highest-level objectives in Strategic Framework are defined as growth and equity
- Strategic Framework also emphasizes trade and investment, but mentions others
- Terms of reference emphasize competitiveness, exports and investment
- USAID/GOE agreement emphasizes employment
- USG and USAID/W policy declarations emphasize trade, poverty alleviation, food security

What to do?

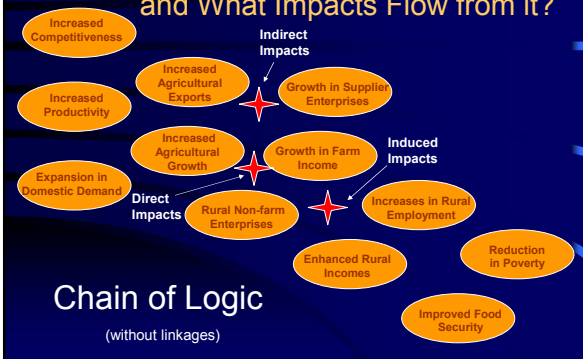


What Leads to Agricultural Growth and What Impacts Flow from it?



Chain of Logic

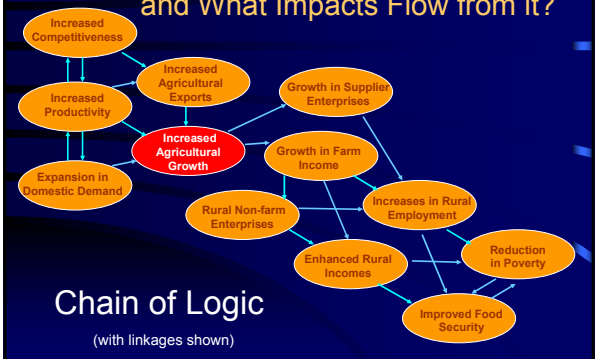
What Leads to Agricultural Growth and What Impacts Flow from it?



Chain of Logic

(without linkages)

What Leads to Agricultural Growth and What Impacts Flow from it?



Chain of Logic

(with linkages shown)

Productivity vs. Competitiveness

- Is increased productivity all that the GOE and USAID should worry about in agriculture?
- If so, what would that mean?
- If not, why not?

Shared GOE/USAID Objectives: Enhanced Productivity

"The central issue in economic development is how to create the conditions for rapid and sustained productivity growth"

Source: Michael Porter, "The Microeconomic Foundations of Economic Development" Global Competitiveness Report 1998, Harvard Business School

Productivity for the Ag Economist

Total factor productivity is measured by:

>Output/Land
>Output/Labor
>Output/Capital

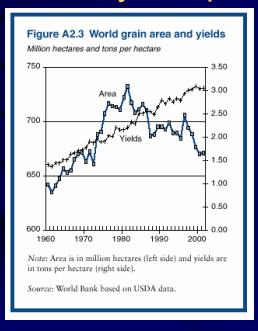
Total factor productivity determines:

>the wages that can be sustained,
>the returns to invested capital, and
>the net surplus generated by a nation's resources

What Does Productivity Mean?

- Productivity has two parts:
  - The efficiency (costs) with which standard units are produced
  - The value (prices) that a nation's products command in the marketplace

For agriculture, yields are at the core of efficiency and productivity



Productivity and competitiveness are related but distinct

- Productivity is more production-oriented than market-oriented
- Productivity is usually measured at the farm-gate, not at the point of sale, and many factors can intervene, especially transport, handling and transaction costs
- Productivity assumes undifferentiated commodities, which are declining as a percentage of industry sales, and it cannot easily handle differentiated products
- Productivity looks mainly at cost from the supplier's perspective, while competitiveness looks at upstream value from the buyers' viewpoint

Shared GOE/USAID Objectives: Enhanced Competitiveness

- *At the country level*: **"ability of a nation to meet the test of free international markets while expanding real incomes at home"** (Porter, 1990)
- *At the industry level*: **collective capacity to anticipate, cause or exploit changes in products, processes, the enabling environment, and the marketplace**
- *At the firm level*: **ability to protect and expand share of market while maintaining an acceptable return on private investment**

Competitiveness in the Old Days

Price

Quality

The Consumer is King, but Retailers Control Access to the Palace

What Consumers Want

- Quality
- Convenience
- Alternative Presentations
- Year-Round Availability
- Reasonable Prices
- Diversity
- Information
- "Green-ness"
- Excitement

What Retailers Expect

- Acceptable Quality
- Good Volumes
- Consistency of Supply
- Appropriate Varieties
- Prices in Tune with Market
- Convenience
- Information
- Responsiveness
- Food Safety & Traceability
- Product Innovation

The Pathway to International Competitiveness

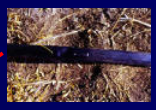
The Role of Innovations

- What do we mean by innovations?
- Are they important to growth?
- Do they pay off?

Yield-Enhancing Innovations: Transgenic Maize

Yield-enhancing Innovations: Bt Cotton

Resource Saving Innovations: Water-Conserving Technologies



Innovations to Combat Pests and Diseases: Soil Fumigation

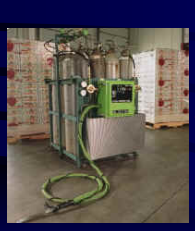
Innovations to Protect the Environment: Bio-controls

Innovations to Lower Costs/Raise Yields: Harvesting Technology & Equipment

Innovations to Exploit Market Windows: Flower Induction

(Worker sprays potassium nitrate-based mix on mangos)

Innovations to Extend Transit Life: Modified Atmosphere Technology

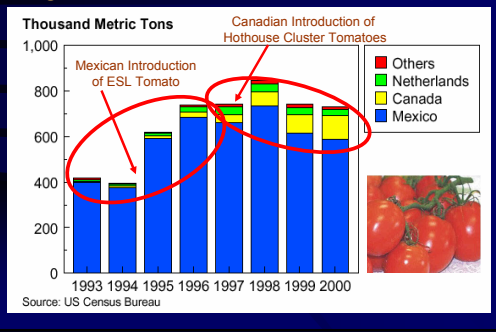


Market-Opening Innovations: New Crop Types

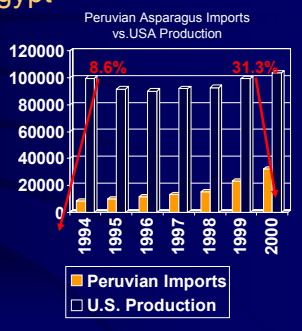
Market-Creating Innovations: New Product Development

- Only 1% of U.S. corn production is consumed directly in fresh, frozen, or canned form.
- The rest is dedicated to a huge variety of derived uses, especially as:
  - Animal feed
  - Food Ingredient
  - Ethanol
  - Oil
  - Starch
  - Sweetener

The Market Implications of Innovation: Origins of U.S. Fresh Tomato Imports



Market-Oriented Innovations: Crops New to Egypt



International Agriculture

- Trade Trends
- The Emergence of Value-Added Agriculture

Why agricultural imports matter to Egypt

- Egypt is not self-sufficient in all food products (e.g. maize and sugar), so imports are inevitable
- Egyptian agriculture and industry both depend on some imported raw materials (e.g. animal feeds, soybean cake, medium staple cotton)
- Egypt does not have comparative advantage in some important primary commodities, and lacks competitive advantage in many higher value products, both which lead to imports

Why agricultural exports matter to Egypt

- Egypt has comparative advantage in some agricultural activities
- For some of these products Egypt either has or could develop an exportable surplus
- There are opportunities to grow in volume, value, domestic value-added
- Exporting--even when not successful--usually leads to innovation and higher productivity in the whole sector

Agricultural exports have been rising...

	Value 2000	Share 1990	Share 2000	Average Growth 1990-2000
Agriculture	$558B	12.2%	9.0%	3%
Food	$442B	9.3%	7.2%	3%
Raw Materials	$116B	2.9%	1.9%	2%

Source: WTO, "International Trade Statistics 2001"

Modest Growth

…yet agriculture's share has been falling

Constant (1990) prices for primary commodities have fallen since 1970…

Indexes	Actual				Projections					
	1970	1980	1990	2000	2001	2002	2003	2005	2010	2015
Agriculture	163.3	175.3	100.0	90.0	86.2	83.7	87.3	94.3	97.8	93.1
Beverages	202.8	230.3	100.0	90.7	77.2	75.9	79.8	95.3	107.7	106.0
Food	166.5	176.8	100.0	86.7	93.0	90.2	90.8	94.4	93.5	81.3
Fats and oils	229.5	188.7	100.0	98.8	96.2	98.5	100.0	108.2	110.3	107.6
Grains	166.6	170.5	100.0	81.6	83.3	84.8	89.2	94.9	92.9	89.6
Other food	114.9	170.5	100.0	79.8	95.9	86.5	84.0	82.7	80.1	55.2
Raw materials	129.8	132.7	100.0	93.8	84.1	81.1	88.3	93.6	96.1	98.6
Timber	113.3	100.3	100.0	113.9	97.9	94.2	106.0	115.7	118.9	126.0
Other raw materials	141.1	154.9	100.0	80.0	74.6	72.2	76.2	78.5	80.5	79.9
Fertilizers	108.3	163.6	100.0	108.6	105.3	101.0	98.2	98.9	96.9	99.4

Source: World Bank, GEP 2002

…only beverages and fats/oils are expected to reach 1990 levels by 2015

Ten-year prices for primary commodities are down...

"Commodity Boom" Period

ANNUAL AVERAGE GROWTH OF PRIMARY COMMODITY PRICES OF DIRECT RELEVANCE TO THE LDCs
(Per cent)

	1989–1993	1994–1997	1998	1999
Total	-3.8	6.0	-13.0	-14.2
All food	-2.8	7.3	-14.3	-18.3
Food	-1.7	4.8	-13.8	-18.1
Tropical beverages	-8.2	23.3	-17.3	-20.9
Coffee	-10.8	31.3	-28.5	-23.2
Tea	1.9	4.9	4.3	-0.7
Agricultural raw materials	-1.3	2.6	-10.8	-10.3
Tobacco	3.1	7.6	-5.5	-7.0
Cotton	-0.6	10.4	-8.3	-22.9
Jute	-1.5	5.8	-14.2	-2.0
Ores and metals	-7.4	5.6	-16.5	-1.8
Copper	-5.6	6.3	-27.3	-4.9
Crude petroleum	4.2	5.0	-31.8	7.6

Source: UNCTAD, *Monthly Commodity Price Bulletin*, various issues.
Notes: Average growth rates refer to the mean annual growth rates.

High Volatility in Cotton

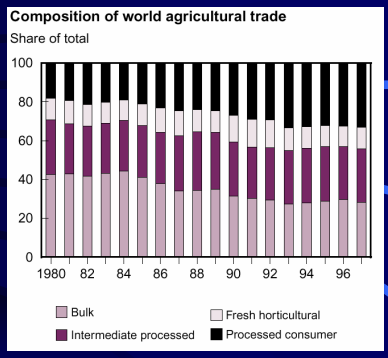
…especially for raw materials and cotton

Agricultural Trade Trends

- Only a few commodities account for a large share of agricultural trade by volume
- And the prices for the biggest volume items were generally falling over the past decade
- Nevertheless, world agricultural trade increased modestly in overall value during the Nineties
- That was because the composition of trade has been shifting from bulk commodities toward semi-processed products and consumer-oriented food products.

Source: USDA/ERS, "Changing Structure of Global Food Consumption and Trade", 2000

World Agricultural Trade is Changing



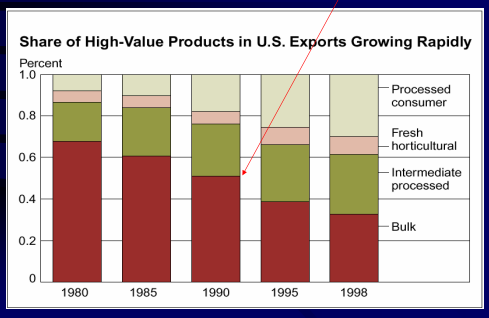
Source: USDA/ERS, "Changing Structure of Global Food Consumption and Trade", 2000

Top Ten Tradable Agricultural Products in 1998

	Ranked by Value	Ranked by Growth Rate
-$760M	• Wheat (US$B 14.8)	• Pet Food up 23.3%
	• Green Coffee ($12.5B)	• Pastry up 10.6%
	• Soybeans ($9.7B)	• Chocolate Prod. up 10.1%
-$273K +$1.34M	• Rice ($9.3B)	• Prepared Food up 9.5%
	• Prep. Food ($9.2B)	• Grapes up 8.8%
	• Cotton Lint ($8.9B)	• Cigarettes up 7.9%
-$388M	• Corn ($8.7B)	• Palm Oil up 7.5%
	• Cigarettes ($7.9B)	• Wine up 6.0%
-$1.55M	• Soya Cake ($7.8B)	• Beef & Veal up 5.7%
	• Wine ($7.4)	• Bananas up 5.5%

Source: FAOSTAT

U.S. export value of HVP passed bulk in 1991, has been gaining since then, and reached 65% in 2000



Source: USDA, "Trade Expansion is Critical", Food and Agricultural Policy, 2000

How are consumer expenditures on food distributed?

Source: Economic Research Service, USDA, 2000

The Concept of "Value-Added"

- For the economist...

  …Value-added means the value of output less the value of intermediate consumption (good and services used to produce)

- For the agribusiness person…

  …Value-added means changes in:

  - time, form or place or
  - genetics, processing or diversification

  that enable him to make money and capture a greater share of the price paid by the end-consumer or end-user

Adding Value by Breeding: User-friendliness

Adding Value by Breeding and Packaging to Enhance Convenience

Adding Value by Changing the Presentation

Adding Value to Fresh Produce through Modified Atmosphere Packaging

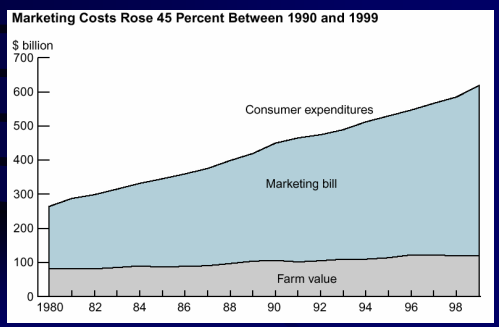
Illustrative Ways to Add Value

- Upgrade varieties used (e.g. better flavor or shelflife)
- Change production system (e.g. organic)
- Change time of harvest (e.g. forced flowering)
- Withhold product from market (via storage)
- Move product closer to end-market
- Add or upgrade stickers or labels
- Tighten quality standards
- Upgrade presentation (e.g. consumer packs)
- Upgrade shipping container (e.g. high graphics box)

Illustrative Ways (cont.)

- Upgrade handling technology (e.g. pallets, bins)
- Use modified or controlled atmosphere technology to extend transit or shelf life
- Change product form (e.g. frozen vs. fresh)
- Transform the product (e.g. cutting, pre-cooking)
- Enhance convenience (e.g. mixes, complements)
- Add information (e.g. nutritive value, recipes, origin)
- Offer co-packing (e.g. private label)
- Differentiate (e.g. through branding)
- Improve service (e.g. communications, problems)

Who Benefits from Innovation?

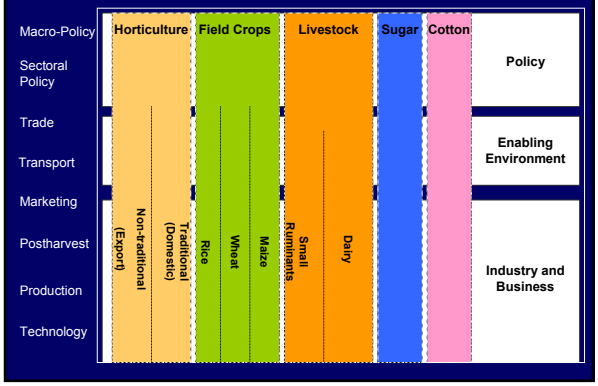


Source: Economic Research Service, USDA, 2000

Implications for Egypt

- For all primary crops that Egypt grows, there is a need at least to keep pace with world increases in productivity, and hopefully surpass others
- Emphasis on reliance on primary bulk commodities may not lead to major increases in export value, unless area is expanded or a productivity breakthrough occurs
- If Egypt wants to really benefit from the increases in world agricultural trade, it must move up the value chain into differentiated primary products, semi-processed products and consumer-oriented products

Overview of Assessment Approach



Example: Horticultural Supply Chain

Contributed by Joseph Pietrus

N.B. See separate presentation entitled 41802Pietrus.ppt

Production Constraints to Agriculture Sector Growth

- Land
  - Availability
  - Soil Contamination
- Water
  - Availability
  - Quality
- Labor
  - Skilled Labor
  - Location
- Planting/Breeding Stock
- Technology
  - Availability
  - Utilization
- Production Financing
- Good Ag. Practices
  - Food Safety
  - Pest/Disease Control
  - Worker Sanitation

Post-Harvest Constraints to Agriculture Sector Growth

- Harvesting Techniques
  - Levels of Maturity
  - Picking
  - Cartage
- Quality Assurance
  - Selection for Defects
  - Sorting by Size
  - Food Safety
- Packing
  - Packaging Types
  - Shipping Containers
- Cold Chain Management
  - Pre-cooling
  - Cold Storage
  - Refrigerated Transport
- Transport
  - Insulated Containers
  - Reefer/Gen Set Availability
  - Loading Patterns
  - Routes/Frequency/Modes
  - Informal Charges

Marketing Constraints to Agriculture Sector Growth

- Market Access
  - Tariff Rate Quotas in EU
  - Tariff Escalation
- Market Analysis
  - Understanding of Trends
  - Competitive Dynamics
- Grades and Standards
  - Domestic vs International
  - Utilization
- Market Information
  - Daily Prices and their Use
  - Historical Price/Volume Data
  - Competitive Intelligence
- Market Infrastructure
  - Warehouse Receipts Systems
  - Storage Facilities & Services
- Distribution Systems
  - Fractionated Supply Chains
  - Food Service Suppliers
- Marketing Legislation

Cross-Cutting Constraints to Agriculture Sector Growth

- ➔Investment Climate Still Not Optimal
- ➔Customs Policies/Procedures Inappropriate
- ➔Transaction Costs High, Unpredictable
- ➔Handling and Transport Costs (especially domestic portion) are Still Uncompetitive
- ➔Private-Public Partnership Still Forming
- ➔Implementation of Policy Reforms neither Certain nor Transparent
- ➔Spill-over Effects of Agriculture on Other Sectors not Appreciated, Taken into Account

Upgrading Factor Conditions: Areas of Potential Intervention

- ↗ Land
  - Land Allocation, Titling, Taxation
  - Soil Conservation
    - Improved stabilization
    - Controlling salinity levels
  - Increase in Cropping Intensity
    - Better rotations
  - Shift to Higher Uses
    - High value crops
  - Expansion of Agricultural Frontier via Reclamation
  - Managing Conversion to Urban Use

Upgrading Factor Conditions: Areas of Potential Intervention

- ↗ Water
  - Water Resources Policy and Planning
    - Source development (Nile=75% of availability, 82% of use)
    - Management of agricultural, municipal, industrial use
    - Water charges
  - Irrigation Improvement (agriculture uses 81%)
    - Structures, equipment, systems, procedures, O&M
    - Better weed control
    - Shift in type of irrigation in favor or water-conserving technology
    - On-farm water management practices
    - Microbacteriological contamination, pesticide residues & runoff
  - Water-conserving Cropping Systems
    - Development of short duration, high-yielding rice
    - **Limit rice and sugarcane areas**

Upgrading Factor Conditions: Areas of Potential Intervention

- ↗ Labor
  - Literacy in Rural Areas
  - Practical Skills Training for Agricultural Labor
  - Upgrading of Ag Extension Staff
  - Subject Matter Specialization
  - Cold Chain Technology and Management Training
  - Appropriate Handling and Application of Agrochemicals
  - Worker Hygiene in the Field and in Plants

Upgrading Enterprises: Areas of Potential Intervention

- ↗ Technology Generation and Transfer
  - Plant Breeding
    - Development and testing of higher-yielding varieties
    - Rapid introduction, testing of imported cultivars
  - Agronomic Practices
    - Integrated Pest Management
    - Organic Agriculture
    - Biodynamic Agriculture
  - Post-harvest Physiology and Handling Practices
  - Processing
  - Cooling and Refrigeration
  - Quality Assurance

Upgrading Enterprises: Areas of Potential Intervention

- ↗ Technology Utilization
  - Production
    - Use of higher yielding genetic materials
    - Increased mechanization
    - Laser land preparation
    - Improved cultural/husbandry practices (esp. EurepGAP)
  - Handling
    - Harvesting techniques/reduction in post-harvest losses
    - Cooling and storage management
    - Better packing, packaging and loading
  - Processing
    - Technology and equipment selection
    - Better process controls
    - GMP, HACCP, ISO 9001

Upgrading Enterprises: Areas of Potential Intervention

- Marketing
  - Strategic Market Analysis and Planning
  - Design and Execution of Marketing Strategies and Programs
  - Organization and Management of Domestic and International Sales Force, Overseas Representatives, Distributors
  - Management of the Marketing Mix
  - New Product Development
  - Competitive Intelligence
- General Management
  - Vision, Mission, Strategy Formulation
  - Organizational Development
  - Environmental Scans
  - Innovation

Upgrading Industry Clusters: Areas of Potential Intervention

- Inputs
  - Speed of Entry, Acceptance and Use of New Cultivars
  - Availability and Cost of other Required Inputs
- Supply Chain Enhancement
  - Schemes for Assembling Product and Ensuring Quality
  - Field Infrastructure and Equipment
  - Purchasing and Marketing Cooperatives
  - Transport Equipment, Use and Service Availability
- Industry Organization
  - Agricultural Commodity Councils
  - Private Commodity-based Associations
  - Private Theme-based Associations (e.g. cold chain providers)
  - Exporter Association(s)
  - Improve Scale, Scope of Activities, Efficiency, Service Menu

Upgrading the Enabling Environment: Areas of Potential Intervention

- Business Environment
  - Improve Transparency and Consistency
  - Reduce the Number of Decision/approval Points (for the formation and operation of new enterprises, for import processing, and for exporting)
- Legal Environment
  - Complete Intellectual Property Rights Legislation and Apply it
  - Complete Plant Breeder Rights Legislation and Apply it
  - Improve Execution of Other Laws and Decrees
- Regulatory Environment
  - Continue Move toward Rules-based Trading System
  - Improve Food Safety Regulations and their Application

Upgrading the Policy Environment: Areas of Potential Intervention

- Macro-Economic Policies
  - Move toward more realistic exchange rate
  - Continue shift toward openness and pro-export bias
  - Improve inter-ministerial coordination
- Sector Policies
  - Phase out distortions that skew farming decisions away from crop and livestock activities that misallocate scarce resources
  - Continue withdrawal of public sector from productive enterprise
  - Continue liberalization in key commodities such as cotton
  - Rationalize investment in public infrastructure (especially water and irrigation, land reclamation, megaprojects, transport)
  - Decentralize and empower agricultural research to facilitate technology adaptation and transfer

Upgrading the Trading Environment: Areas of Potential Intervention

- Trade Agreements
  - Continue implementation of WTO Accession Agreement (especially with respect to TRIPS, domestic protection, export subsidies)
  - Continue implementation of EU-Mediterranean Partnership Agreement (especially with aim at eliminating tariffs and TRQs on all agriculture and processed food products)
- International Conventions
  - Pass UPOV-compliant law and enabling regulations to ensure Plant Breeders' Rights
  - Pass IPR legislation needed to facilitate entry of commercially-required seeds

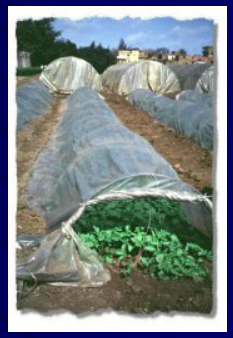
Upgrading: The Development Dilemma

- There are many possible remedial actions that could be taken
- Some are more important to some supply chains than others
- Clearly they exceed available resources so priorities must be set based on expected impact of alleviation

Upgrading: The Dilemma (continued)

- Clearly they exceed available resources so priorities must be set based on expected impact of alleviation
- We suggest organizing them into 3 matrices (type 1, 2, 3), with crops at top and each one broken down in terms of policy, cross-cutting and commodity-specific interventions

Overview of the Horticultural Supply Chain



Contributed by Joseph Pietrus

USAID/Cairo

April 18, 2002

Key Findings Relating to Horticulture

- Selected crops in which Egypt has a competitive advantage in export markets have been identified and successfully moved to commercial scale
- ATUT's work has established a product/market development system that provides a foundation for further growth. This system is not yet self-sustaining.
- An effective mix of production, post-harvest and marketing support has been delivered to selected growers/shippers.
- A reasonably effective association of exporters and growers/shippers (HEIA) has been established.

  HEIA is not yet self-sustaining.

Key Findings Relating to Horticulture (cont.)

- There is grounds for optimism with respect to growth prospects for certain NTAE export crops, but recent projections seem to have been based too much on production possibilities and too little on the size, growth rate and competitive situation in certain target markets
- Further innovation will be critical as market resistance points appear for key export crops:
  - Potato, Orange, Bobby Bean - now
  - Strawberries – within 5 years
  - Table Grape, Fine Green Beans – within 10 years
- Sustaining a high growth rate will require new markets, additional value-added, and new products

Key Findings Relating to Horticulture (cont.)

- The potential to increase medium and small holder income is greater in traditional crops than in high value export crops, for example:
  - Orange
  - Potato
  - Tomato
  - Onion

Potato

- Potatoes have traditionally been grown by >100,000 very small farmers in the Delta and Nile Valley, especially in Behaiah, Noubaria, Menoufia, Gharbia, and Ismailia
- Export and processed production increasingly on new desert lands on corporate farms up to 5,000 feddans each
- Area planted peaked in 1996 at about 310,000 Feddan in response to temporary deficit in EU, then fell back to about 180,000 Feddan in the latter Nineties

Potato (Cont.)

- Yields on corporate farms average 12+ MT/feddan versus 8-10 MT/feddan, in other words as much as 50% higher
- Year 2000 yields in Upper Egypt averaged 13.2 MT/feddan, 10.1 MT/feddan in Lower Egypt and 8.6 MT/feddan in Middle Egypt
- National production peaked in 1995 and 1996 at about 2.6 million MT, but by 2001had dropped back to the level seen at the beginning of the 90's, around 1.8 million MT

Potato (cont.)

- Corporate farms now produce 40-50% of total volume, targeting mainly fresh export and processing markets
- Egypt depends on Europe for disease (e.g. brown rot) free planting materials
- . About 15% of total production is exported

Potato (cont.)

- Fresh exports in the Nineties ranged in volume from 132,000 MT to 419,000 MT, and in value from $22 million to $102 million. Volume and value both peaked in 1995. Fresh potato exports in 2000 were about 156,000 MT, $25 Million
- Frozen potatoes including exports, are growing about 15% per year. Since this segment is also expanding generally in the world, it merits special attention for Egypt.

Tomato

- Tomato is the most widely grown horticultural crop
- It is produced in all governorates, but 60% comes from Qena, Menia, Suhag, Ismailia, and Sharkia
- In the last decade area harvested has varied between 350,000 Feddan and 464,000 hectares, peaking in the year 2000
- Most production comes from small to medium-sized farms growing under open field conditions using flood irrigation, but large corporate farms in the New Lands use plastic row tunnels and drip irrigation

Tomato (Cont.)

- National yields average 10.3 MT/feddan in winter versus 13.4 MT/feddan in the summer
- Yields under intensive tunnel production are considerably higher than open field production

Tomato (Cont.)

- Yields in Old Lands in Upper Egypt are higher than other regions
- Production is based on expensive imported hybrid seed
- These varieties are resistant to Yellow Leaf Curl Virus, which has been a major problem
- Thick skins on these varieties help them withstand poor post-harvest conditions, especially inferior packaging and rough roads

Tomato (Cont.)

- However, such varieties were actually bred for processing, and they tend to ripen quickly, so they are not suitable for the fresh export market
- National production has ranged in the Nineties from about 4.5 million MT to 6.8 million MT, peaking in the year 2000, with a definite upward trend.
- Post-harvest loss is very high, perhaps 80%

Tomato (Cont.)

- Even though the market is often momentarily flooded with product, farmers continue to increase tomato production.
- Tomatoes, whether fresh or processed, are not exported in significant volume, but the overall size of this subsector warrants special attention to see whether innovations could make Egypt competitive

Table Grape

- National production of table grape is high And increasing – 1.1 Million Mt. In 2001.
- Less than 5,000 MT are currently exported, mostly by growers / exporters working with ATUT.
- Export value is high.
- ATUT projects these growers will export 24,000 MT by 2007, increasing to 46,000 by 2012
- This will require 5,100 feddans in 2007, increasing to 7,600 feddans by 2012

Table Grape (Cont.)

- Their production of export quality production is increasing

1997	1999	2001	2002+
69%	72%	78%	80%

- The target markets are:

Location	2000 Window Imported – MT	Trend
EU	78,100	Stable, Modest Growth
Gulf	E. 20,000	Down, Stabilizing

Table Grape (Cont.)

- The principal EU market competitors and their market shares during Egypt's window are:

	1999	2000
Chile	21%	28%
South Africa	28%	15%
Turkey	11%	15%
Israel	6%	9%
Egypt	3%	5%

Strawberry

- National production of strawberries is relatively small – Est. 71,000 MT in 2001
- Growers / shippers assisted by ATUT account for almost all exports – Est. 5,000 MT in 2000
- Export value is high.
- ATUT protects these growers can export 31,500 MT by 2007 increasing to 67,500 by 2012
- This will require 2,500 Feddan by 2007, increasing to 5,000 Feddan by 2012

Strawberry (Cont.)

- Their proportion of export quality production is increasing

1997/8	1999/00	2001/02	2006/07	2011/12
38%	32%	50%	70%	75%

- The target markets are:

Location	2000 window imports – MT	trend
EU	23,281	up sharply, volatile
Gulf	E. 815	Stable, modest increase

Strawberry (Cont.)

- The principal EU market competitors and their market shares during window are:

	1999	2000
Morocco	77%	77%
Israel	10%	7%
Egypt	5%	5%

Selected Crop Comparison Year 2000

Crop	Feddan Harvested 000	Production 000 MT	Export MT 000 MT	Export Value/Million $
Tomato	464	6,786	2	0.5
Potato	181	1,784	156	25
Orange	201	1,611	86	17
Table Grape	142	1,075	6	15
Green Bean	52	202	5	10
Strawberry	6	71	5	12

Constraints to Horticulture for the Domestic Market

- Small scale
- Water pollution
- Tradition
- Ignorance of good agricultural practices
- Soil contamination
- Lack of low cost credit
- Incapacity to absorb risks
- Lack of market information
- Poor market infrastructure
- Lack of market access

Growth Opportunities in Domestic Horticulture

- Reducing production cost; upgrade yields, quality, food safety and GAP for domestic products
- Selective introduction of limited quality and condition standards that lead to market premiums
- Identify remedial interventions (If any) to attract investment in cold-chain system to reduce post-harvest loss and raise incomes to producers and handlers

Growth Opportunities in Domestic Horticulture (cont.)

- Develop low-cost packing and packaging materials and technologies designed to maintain quality and condition of fresh produce, add convenience and upgrade unit prices
- Expand coverage, reach and accuracy of price and volume reporting for fresh produce, coupled with training in the importance and use of market information.

Constraints to Horticulture for the Export Market

- General inexperience in the international fresh produce and ornamental industries
- Comparatively high cost of imported inputs
- Delayed access to new seeds
- Difficulty complying with food safety and other requirements under EUREPGAP
- Lack of appropriately trained farm workers, farm managers, packing and QC personnel
- Limited export-quality supply

Constraints to Horticulture for the Export Market (cont.)

- High transaction costs within Egypt
- Comparatively high cost and low availability of refrigerated transport and storage services
- Transport, access and cost advantages by Morocco and other competitors
- Insufficient value and number of participants with the financial, technical, marketing and managerial capacity to establish critical mass

Constraints to Horticulture for the Export Market (cont.)

- Reliance on the export of primary commodities with little or no value-added
- Lack of familiarity with some crops of promise
- Reliance on traditional varieties (e.g. mangos) not known or appreciated by selected markets
- High financial costs associated with commercial loans, bank guarantees
- High "country cost" of Egypt, esp. bureaucracy

Growth Opportunities in Export Horticulture

- Continued expansion of strawberry exports, especially to EU
- Continued expansion of table grape exports especially to EU
- Protection, and if possible expansion, of market share in bobby beans and fine beans
- Expansion of development work on cut flowers
- Initiation of development work on other products

Growth Opportunities in Export Horticulture (cont.)

- Incorporation of small farmers into supply chains
- Establishment of stronger working framework for contract production and dispute resolution for perishables
- Value-added innovations, e.g. consumer packs
- Fortification of linkages with Egyptian processing industry to handle seconds and seasonal overflows
- Opportunity to broaden marketing windows through production in Upper Egypt

Policy Issues in Horticulture

- Implement 1998 decree applying 5% import tariff to new trucks
- Reduce/Eliminate tariffs on imported truck parts, cold-chain equipment
- Negotiate cross-border trucking agreements
- Full implementation of export supplies draw back
- Remove general sales tax on exported horticultural products to match domestic sales

Policy Issues in Horticulture (Cont.)

- Reinstate MALR decree 663 (pesticide regulation) in full and eliminate undocumented "fast track" approval system
- Remove trial period in approving seed varieties registered in other countries
- Accelerate titling process for new lands brought into horticultural production

Recommendations to USAID Relating to Horticulture

- USAID should continue to support horticultural development in Egypt
- Both domestic / export and traditional / non-traditional / new product and market opportunities should be pursued simultaneously
- Pursue policy issues that will reduce production costs and improve quality.
- The timeframe for intervention should be long (i.e. 10 yrs, two phases)

Recommendations to USAID Relating to Horticulture (cont.)

- Stronger emphasis should be placed on export marketing – product/market selection establishing links, developing transportation, identifying value-added opportunities
- Effective small farmer participation will require technology transfer and marketing systems that involve donor funded NGOs, private sector participants, Governorate MALR staff, and selected producer/cooperative associations to develop and deliver good agricultural practices and market links

Recommendations to USAID Relating to Horticulture (cont.)

- Implementers should be given substantial operational flexibility
- Specific crop/market combinations should not be pre-defined
- Action-oriented diagnostic analyses of the potato and tomato industries are needed to identify constraints, opportunities and interventions

Recommendations to USAID Relating to Horticulture (cont.)

- Expectations of progress should be realistic, taking into account the lagged, cumulative nature of horticultural industry change, as well as the degree of emphasis on small farmer participation

Expected Results

- Increased small and medium holder income
- Increased, more equitably distributed rural income
- More competitive horticulture sector, domestic and export
- Self-sustaining horticultural export sector
- Restructured and growing horticultural export sector

Horticultural Crop Export Projections 2002-2007, 2012

	2002	2003	2004	2005	2006	2007	2012
	000 metric ton – cut flowers mm stem						
Traditional Crops							
Potato	150.0	153.0	156.1	159.2	163.4	165.6	182.8
Orange	85.0	90.0	95.0	100.0	102.0	104.0	114.9
All Other	230.0	234.6	239.3	244.1	249.0	253.9	280.4
Total	465.0	477.6	490.4	503.3	514.4	523.4	578.1
Growth		2.7%	2.7%	2.6%	2.2%	1.8%	2.0%
Non-Traditional Crops							
Table Grape	8.2	11.4	14.6	17.9	21.1	24.3	45.6
Strawberry	6.3	8.4	10.5	12.6	14.7	16.9	21.1
Fine Green Beans	1.4	2.3	3.3	4.4	5.5	6.8	13.2
Total	15.9	22.1	28.4	34.8	41.6	48.0	79.9
Growth		39.0 %	28.5 %	22.5 %	19.5 %	15.4 %	g=10.7 %
Cut Flowers	32.3	57.6	82.6	107.7	132.7	139.7	153.8
Growth		78.3 %	43.4 %	30.4 %	23.2 %	5.3%	2.0%
Grand Total ex flowers	480.9	499.7	518.8	538.1	556.0	571.4	658.0
Growth		3.9%	3.8%	3.7%	3.3%	2.8%	g=2.9%
Share of total mt	3.1%	4.4%	5.5%	6.5%	7.5%	8.4%	12.1%

AGERI PRESENTATION

Assessment of Egypt's Agricultural Sector Competitiveness

Some Implications for Agricultural Research

by John E. Lamb

Institutional Capacity in Agricultural Science and Technology

- Agricultural Research Centre
  - AGERI
  - Horticultural Research Institute
  - Institute for Plant Protection Research
  - Food Technology Research Institute
  - Other Specialized Entities
- Ain Shams University
- Cairo University
- Alexandria University
- Assiut University
- Academy of Scientific Research and Technology

U.S. - Egypt Joint Science and Technology Board

- Biotechnology
- Standards and Metrology
- Environmental Technology
- Manufacturing Technology
- Information Technology
- Energy

Matters to Discuss

1 Productivity versus Competitiveness
2 The Role of Innovation
3 The International Context
4 The Increasing Importance of Value-added Agriculture
5 Private-Public Sector Cooperation in Support of Commercial Innovation

Productivity Growth is Critical

"The central issue in economic development is how to create the conditions for rapid and sustained productivity growth"

Source: Michael Porter, "The Microeconomic Foundations of Economic Development" Global Competitiveness Report 1998, Harvard Business School

Why is Productivity Crucial?

Factor productivity determines the wages that can be sustained, the returns to invested capital and the net surplus generated by a nation's resources

Trends in Total Factor Productivity (1967-1992)

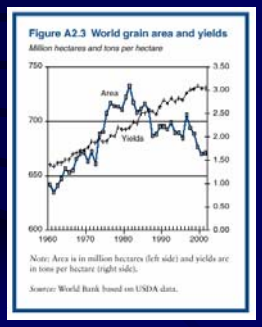
	Agriculture	Manufacturing
Overall TFP	2.3 to 2.9	1.1 to 1.9
Developed countries	3.4 to 3.5	1.9 to 3.3
Developing countries	1.8 to 2.6	0.6 to 0.9
Low income countries	1.4 to 2.0	0.2 to 0.9
Middle income countries	1.8 to 2.9	0.8 to 1.0

Source: Martin, W. and D. Mitra (2001). "Productivity Growth in Agriculture versus Manufacturing." Economic Development and Cultural Change. Vol. 49. No. 2

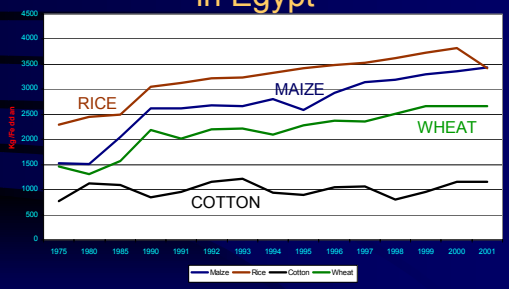
What Does Productivity Mean?

- Productivity has two parts:
  - The efficiency (costs) with which standard units are produced
  - The value (prices) that a nation's products command in the marketplace

Yields are at the core of efficiency



Trends in Crop Yields in Egypt



How productivity is measured depends on who the observer is...

- Agronomist: gross yield
- Commercial Farmer: marketable yield
- Agribusinessman:
  - > cost per unit of physical output
  - > net return/unit of physical output
- Agricultural economist:
  - > net value of output/land
  - > net value of output/labor
  - > net value output/capital

Limitations in using productivity for strategy and decision-making

- Sometimes used to measure volume, not value
- Sometimes defined in gross rather than net terms (ignoring quality, post-harvest losses)
- Usually measured at the farmgate, no matter what or where the market is, so handling, transport and marketing margins are ignored
- It doesn't say much about the comparative value of the output as seen by the final market

Which farm is more productive?

9 @ 5 kg

1 @ 45 kg

Productivity and competitiveness are related but distinct

- Productivity is more production-oriented than market-oriented
- Productivity is usually measured at the farm-gate, not at the point of sale, and many factors can intervene, especially transport, handling and transaction costs
- Productivity assumes undifferentiated commodities, which are declining as a percentage of industry sales, and it cannot easily handle differentiated products
- Productivity looks mainly at cost from the supplier's perspective, while competitiveness looks at upstream value from the buyers' viewpoint

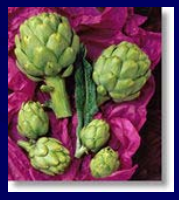
What does competitiveness mean?

- *At the country level*: **"ability of a nation to meet the test of free international markets while expanding real incomes at home"** (Porter, 1990)
- *At the industry level*: **collective capacity to anticipate, cause or exploit changes in products, processes, the enabling environment, and the marketplace**
- *At the firm level*: **ability to protect and expand market share while maintaining an acceptable return on investment**

Competitiveness in the Old Days

Price

Quality



The Consumer is King, but Retailers Control Access to the Palace

What Consumers Want

- Quality
- Convenience
- Alternative Presentations
- Year-Round Availability
- Reasonable Prices
- Diversity
- Information
- "Green-ness"
- Excitement

What Retailers Expect

- Acceptable Quality
- Good Volumes
- Consistency of Supply
- Appropriate Varieties
- Prices in Tune with Market
- Convenience
- Information
- Responsiveness
- Food Safety & Traceability
- Product Innovation

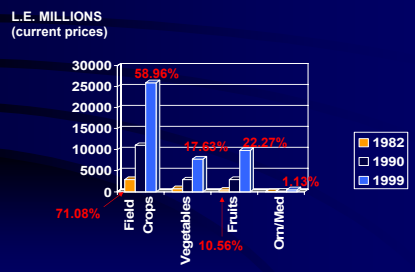
The Pathway to International Competitiveness

Matters to Discuss

1 Productivity versus Competitiveness

2 The Role of Innovation

Changing Structure of Crop Value-added in Egypt



What do you have to work with? In the plant kingdom alone...

- 3,000 tropical fruits
- 10,000 grasses
- 18,000 legumes
- 1,500 edible nuts
- 30,000 tropical trees
- 1,500 edible mushrooms
- 60,000 medicinal plants
- 20,000 plants with pesticidal properties
- 3,000 species w/ purported contraceptive properties

Noel Vietmeyer, "The New Crops Era", 1990

There's a very big world out there...

- 350,000 species of higher plants
- Some 3,000 have been used as food
- About 350 plant species are cultivated
- Yet just 15 crops feed the world

- Wheat
- Rice
- Maize
- Sorghum
- Barley
- Beans
- Groundnuts
- Soybean
- Sugarcane
- Sugarbeets
- Sweet Potato
- Cassava
- Potatoes
- Bananas
- Coconuts

Don Paarlberg, "The Economics of New Crops", 1990

There is tremendous untapped potential

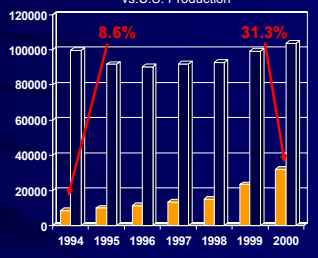
- Just 4 of the 3,000 tropical fruits (banana, mango, pineapple, papaya) are produced in any quantity on a global scale
- Of the 10,000 grasses, only 7 (wheat, rice, maize, barley, sorghum, rye, oats) are employed globally
- Of the 18,000 legumes, just 6 (peas, beans, soybeans, peanuts, alfalfa, clover) are used intensively

Noel Vietmeyer, "The New Crops Era", 1990

Can these be produced competitively in Egypt?

- Sweet and baby corn (fresh)
- Globe artichokes (fresh, canned)
- Sweet onions (fresh)
- Baby vegetables (fresh)
- Asian vegetables (fresh)
- Cluster, grape, organic tomatoes
- White asparagus (fresh, canned)
- Broccoli and cauliflower (frozen)
- Stringless sugarsnaps (fresh, frzn)
- Pre-cut salads (fresh)

Research-based Innovations: New Crops



Research-based Innovations: Transgenic Maize

Research-based Innovations: Bt Cotton

Other Examples of Recent/On-going Research in Pest/Disease Resistance

- Potyvirus Resistance in Cucurbits (with MSA, Cornell)
- Managing Resistance to Potato Tiller Moth (with MSU)
- Development of Geminivirus Resistance in Tomato (with Scripps Research Institute)
- Whitefly Biotypes and Biotype-Specific Transmission of Geminivirus (with University of Arizona)

Research-based Innovations: New Varieties for New Markets

Research-based Innovation: Breeding for Sweetness

Sweet Onions from Peru to the U.S. from October 10 to November 20,2001: US$ 31 for 40-lb box, which means US$31 for 18.18 kg, or US$1.64/kg, or in that year LE 5.74/kg

Research-based Innovations: Breeding Seedless Varieties

Research-based Innovations: Breeding for Novelty

Research-based Innovations: Breeding for Visual Appeal

Research-based Innovations: Breeding for Taste

The “Flavor-Savr” Tomato

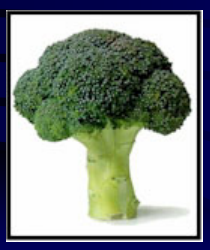
Research-based Innovations: Breeding for Resistance to Drought and Salinity

(ARC-Ohio State project)

Research-based Innovations: Breeding for Convenience

Research-based Innovations: Breeding for Variety

Research-based Innovations: Breeding for Consumer Use



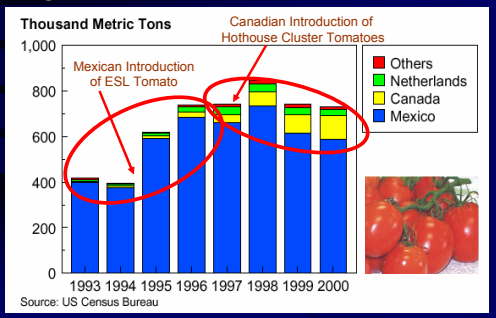
Research-based Innovations: Breeding for Food-service Use

Research-based Innovations: Breeding for Post-harvest Handling

(Mature Green Tomatoes)

Research-based Innovations: Breeding for Mechanization or Processing

The Market Implications of Innovation: Origins of U.S. Fresh Tomato Imports



Research-based Innovations: Breeding for a Target Market

Charentais Melons for the U.K.

Galia Melons for the U.K.

Cantaloupe Melons for the U.S.

Research-based Innovations: Variety Testing

Mammoth Melting Sugar II

Oregon Sugar II

Research-based Innovations: Diversifying Varieties

Research-based Innovations: Diversifying Product Type

Fava Beans

Snowpeas (Mangetout)

Sugarsnaps

Research-based Innovations: Defining Good Agricultural Practices

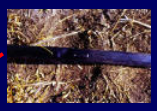
Examples of Recent/On-going Research Related to GAP

- *Distribution of Pesticide Residues in the Nile River…* (Cairo University and USDA)
- *Preparation and Evaluation of New Environmentally Friendly "Lignocellulosic Composites" from Waste Agricultural Products* (NRC, Drexel Univ.)

EUREPGAP®
The Global Partnership for Safe and Sustainable Agriculture

(Is anyone working on maximum residue limits MRLs and pre-harvest intervals for Egyptian specialty produce?)

Research-based Innovations: Water-Conserving Technologies



Research-based Innovations: Alternative Cultural Practices

Research-based Innovations: Soil Fumigation

Research-based Innovations: Integrated Pest Management

Research-based Innovations: Bio-controls

Research-based Innovations: Flower Induction

(Worker sprays potassium nitrate-based mix on mangos)

Research-based Innovation: Targeting Seasonal Windows

- Brazil Deal: Tommy Atkins from 8/20 to 11/10, air then sea
- Ecuadorian Deal: Tommy's and Hadens from 11/15 to 1/30, all by sea
- Peruvian Deal: Hadens from 12/15 to 1/31, Kents from 12/25 to 3/1, all by sea
- Chiapas Deal: Ataulfos 3/1 to 5/30, by land
- Oaxaca Deal: Haden's, Tommy's from 2/15 to 4/15, by land
- Michoacan Deal: Hadens from 4/1 to 6/15, by land
- Nayarit Deal: Hadens, Tommy's, Ataulfos from 5/15 to 7/1, by land
- Sinaloa Deal: Hadens, Tommy, Kents and Keitts from 7/15 to 9/10, by land

- $13.00-$5.50/ 10 lb. box
- $6.00-$3.50
- $4.00-$7.00
- $9.00-$4.00
- $5.00-$3.50
- $4.00-$1.60
- $3.50-$1.50
- $2.00-$3.75

Research-based Innovations: Harvesting Technology & Equipment

Research-based Innovations: Field Pre-cooling

Research-based Innovation: Hydro-cooling at the Cold Store

Research-based Innovation: Palletizing & Stacking Practices

Research-based Innovations: Extending Transit Life

Research-based Innovations: Shipping Containers

Bulk Bins

Insulated E-containers

Research-based Innovations: Controlled Atmosphere Shipment

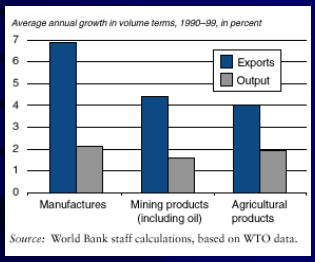
Research-based Innovations: Extending Shelf Life

Research-based Innovations: Improved Agroindustrial Processes

Matters to Discuss

1 Productivity versus Competitiveness
2 The Role of Innovation
3 The International Context

Since export growth in goods has been greater than output growth...



...clearly trade is very important to economic growth

Agricultural exports have been rising...

	Value 2000	Share 1990	Share 2000	Average Growth 1990-2000
Agriculture	$558B	12.2%	9.0%	3%
Food	$442B	9.3%	7.2%	3%
Raw Materials	$116B	2.9%	1.9%	2%

Source: WTO, "International Trade Statistics 2001"

Modest Growth

…yet agriculture's share has been falling

Ten-year prices for primary commodities are down...

"Commodity Boom" Period

ANNUAL AVERAGE GROWTH OF PRIMARY COMMODITY PRICES OF DIRECT RELEVANCE TO THE LDCs
(Per cent)

	1989–1993	1994–1997	1998	1999
Total	-3.8	6.0	-13.0	-14.2
All food	-2.8	7.3	-14.3	-18.3
Food	-1.7	4.8	-13.8	-18.1
Tropical beverages	-8.2	23.3	-17.3	-20.9
Coffee	-10.8	31.3	-28.5	-23.2
Tea	1.9	4.9	4.3	-0.7
Agricultural raw materials	-1.3	2.6	-10.8	-10.3
Tobacco	3.1	7.6	-5.5	-7.0
Cotton	-0.6	10.4	-8.3	-22.9
Jute	-1.5	5.8	-14.2	-2.0
Ores and metals	-7.4	5.6	-16.5	-1.8
Copper	-5.6	6.3	-27.3	-4.9
Crude petroleum	4.2	5.0	-31.8	7.6

Source: UNCTAD, *Monthly Commodity Price Bulletin*, various issues.
Notes: Average growth rates refer to the mean annual growth rates.

High Volatility in Cotton

…especially for raw materials and cotton

Constant (1990) prices for primary commodities have fallen since 1970…

Indexes	Actual				Projections*					
	1970	1980	1990	2000	2001	2002	2003	2005	2010	2015
Agriculture	163.3	175.3	100.0	90.0	86.2	83.7	87.3	94.3	97.8	93.1
Beverages	202.8	230.3	100.0	90.7	77.2	75.9	79.8	95.3	107.7	106.0
Food	166.5	176.8	100.0	86.7	93.0	90.2	90.8	94.4	93.5	81.3
Fats and oils	229.5	188.7	100.0	98.8	96.2	98.5	100.0	108.2	110.3	107.6
Grains	166.6	170.5	100.0	81.6	83.3	84.8	89.2	94.9	92.9	89.6
Other food	114.9	170.5	100.0	79.8	95.9	86.5	84.0	82.7	80.1	55.2
Raw materials	129.8	132.7	100.0	93.8	84.1	81.1	88.3	93.6	96.1	98.6
Timber	113.3	100.3	100.0	113.9	97.9	94.2	106.0	115.7	118.9	126.0
Other raw materials	141.1	154.9	100.0	80.0	74.6	72.2	76.2	78.5	80.5	79.9
Fertilizers	108.3	163.6	100.0	108.6	105.3	101.0	98.2	98.9	96.9	99.4

Source: World Bank, GEP 2002

…only beverages and fats/oils are expected to reach 1990 levels by 2015

Real unit prices for primary commodities are not expected to rise much in general...

Commodity	Unit	Actual 1970	1980	1990	2000	Projections 2001	2002	2003	2005	2010	2015
Fats and oils											
Coconut oil	$/mt	1416.0	855.3	336.5	462.3	338.9	377.6	426.2	564.1	561.7	542.9
Copra	$/mt	801.6	574.7	230.7	312.9	215.2	362.1	396.4	423.1	418.0	405.1
Groundnut oil	$/mt	1349.5	1090.1	963.7	732.6	726.1	750.1	768.1	771.0	740.2	709.0
Palm oil	$/mt	927.1	740.9	289.8	318.5	312.0	341.4	356.8	376.1	391.9	384.9
Soybean meal	$/mt	365.7	333.1	200.2	194.2	193.6	189.3	188.3	202.1	204.6	198.5
Soybean oil	$/mt	1020.8	758.6	447.3	347.1	384.0	398.3	391.5	399.6	400.6	409.2
Soybeans	$/mt	416.8	376.0	246.8	217.5	215.2	212.1	208.1	221.0	226.4	218.8
Grains											
Maize	$/mt	208.2	159.0	109.3	90.9	96.8	99.3	107.0	114.7	108.9	105.3
Rice, Thai, 5 percent	$/mt	450.3	521.4	270.9	207.8	182.9	191.4	203.2	221.0	226.4	218.8
Sorghum	$/mt	184.7	163.6	103.9	90.3	102.2	95.0	102.3	109.7	104.1	100.1
Wheat, U.S., HRW	$/mt	195.7	219.3	135.5	117.1	134.5	134.5	136.8	141.0	135.0	129.6
Other food											
Bananas, U.S.	$/mt	592.1	478.9	540.9	435.3	656.2	541.7	518.9	497.5	494.6	478.0
Beef, U.S.	cents/kg	465.0	350.3	256.3	198.4	222.7	209.8	201.0	201.1	191.6	186.4
Oranges	$/mt	599.1	508.0	531.1	372.9	677.7	646.6	545.1	423.1	413.6	405.1
Shrimp, Mexican	cents/kg	n.a.	1,462	1,069	1,553	1,694	1,604	1,586	1,561	1,472	1,394
Sugar, world	cents/kg	29.32	80.17	27.67	18.5	20.2	17.3	18.5	20.7	20.9	21.1

…but those that Egypt imports will rise faster than those that Egypt exports

Source: World Bank, GEP 2002

Agricultural Trade Trends

- Only a few commodities account for a large share of agricultural trade by volume
- And the prices for the biggest volume items were generally falling over the past decade
- Nevertheless, world agricultural trade increased modestly in overall value during the Nineties
- That was because the composition of trade has been shifting from bulk commodities toward semi-processed products and consumer-oriented food products.

Source: USDA/ERS, "Changing Structure of Global Food Consumption and Trade", 2000

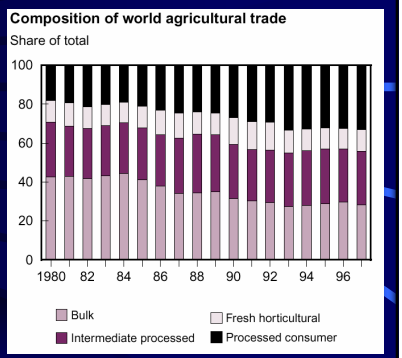
Why agricultural imports matter to Egypt

- Egypt is not self-sufficient in all food products (e.g. maize and sugar), so imports are inevitable
- Egyptian agriculture and industry both depend on some imported raw materials (e.g. animal feeds, soybean cake, medium staple cotton)
- Egypt does not have comparative advantage in some important primary commodities, and lacks competitive advantage in many higher value products, both which lead to imports

Why agricultural exports matter to Egypt

- Egypt has comparative advantage in some agricultural activities
- For some of these products Egypt either has or could develop an exportable surplus
- There are opportunities to grow in volume, value, domestic value-added
- Exporting--even when not successful--usually leads to innovation and higher productivity in the whole sector

World Agricultural Trade is Changing



Source: USDA/ERS, "Changing Structure of Global Food Consumption and Trade", 2000

Top Ten Tradable Agricultural Products in 1998

Ranked by Value

-$760M
- Wheat (US$B 14.8)
- Green Coffee ($12.5B)
- Soybeans ($9.7B)

-$273K
+$1.34M
- Rice ($9.3B)
- Prep. Food ($9.2B)
- Cotton Lint ($8.9B)

-$388M
- Corn ($8.7B)
- Cigarettes ($7.9B)

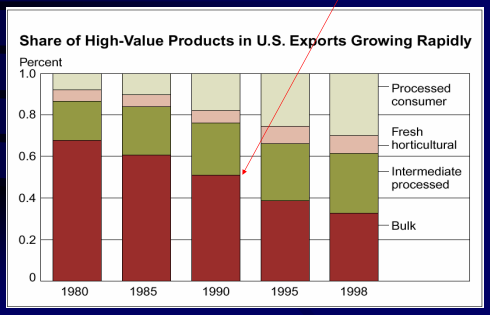
-$1.55M
- Soya Cake ($7.8B)
- Wine ($7.4)

Ranked by Growth Rate

- Pet Food up 23.3%
- Pastry up 10.6%
- Chocolate Prod. up 10.1%
- Prepared Food up 9.5%
- Grapes up 8.8%
- Cigarettes up 7.9%
- Palm Oil up 7.5%
- Wine up 6.0%
- Beef & Veal up 5.7%
- Bananas up 5.5%

Source: FAOSTAT

U.S. export value of HVP passed bulk in 1991, has been gaining since then, and reached 65% in 2000

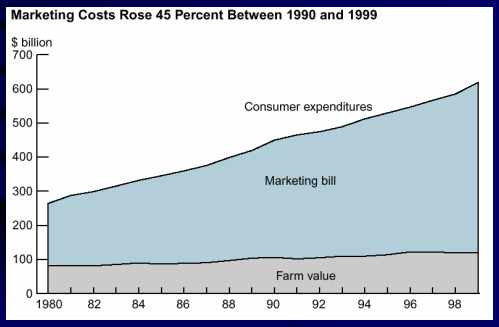


Source: USDA, "Trade Expansion is Critical", Food and Agricultural Policy, 2000

Implications

- For all primary crops that Egypt grows, there is a need at least to keep pace with world increases in productivity, and hopefully surpass others
- Emphasis on reliance on primary bulk commodities may not lead to major increases in export value, unless area is expanded or a productivity breakthrough occurs
- If Egypt wants to really benefit from the increases in world agricultural trade, it must move up the value chain into differentiated primary products, semi-processed products and consumer-oriented products

Who Benefits from Innovation?



Source: Economic Research Service, USDA, 2000

Matters to Discuss

1 Productivity versus Competitiveness

2 The Role of Innovation

3 The International Context

4 The Increasing Importance of Value-added Agriculture

How are consumer expenditures on food distributed?

Source: Economic Research Service, USDA, 2000

The Concept of "Value-Added"

- For the economist...

  …Value-added means the value of output less the value of intermediate consumption (good and services used to produce)

- For the agribusiness person…

  …Value-added means changes in:

  - time, form or place or
  - genetics, processing or diversification

  that enable him to make money and capture a greater share of the price paid by the end-consumer or end-user

Adding Value through Consumer Packs and Shipping Boxes

Adding Value by Changing the Presentation

Adding Value to Fresh Produce through Modified Atmosphere Packaging

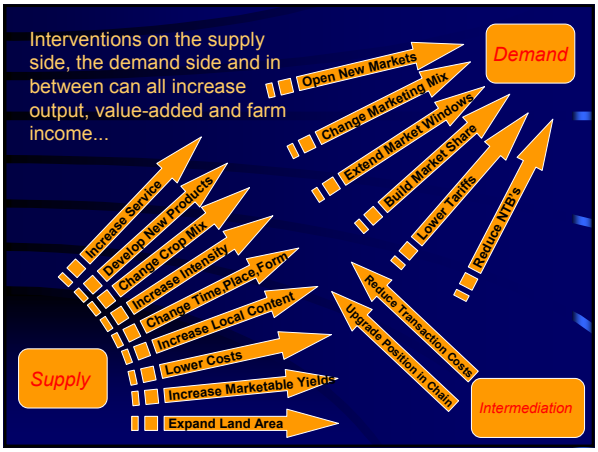
Adding Value through New Product Development

- Only 1% of U.S. corn production is consumed directly in fresh, frozen, or canned form.
- The rest is dedicated to a huge variety of derived uses, especially as:
  - Animal feed
  - Food Ingredient
  - Ethanol
  - Oil
  - Starch
  - Sweetener

Examples of Recent/On-going Value-Adding Research

- *Agricultural Utilization by Briquetting as an Energy Source* (AUC, Univ. of Miami)
- *Production of Low-fat Soft-type Cheese with Improved Characteristics* (Alexandria Univ., Univ. of Georgia)
- *Commercial-Scale Production of Functional Inositol Polyphosphates from Rice Bran* (Assiut Univ., USDA)
- *Development of Cotton Fiber and Fabric Certified Reference Materials* (NIS in Egypt and U.S.A.)
- *Commercialization of U.S. Hard White Wheat for Traditional and Non-traditional Egyptian Bakery Products* (Food Technology Research Institute, Kansas State Univ.)

Interventions on the supply side, the demand side and in between can all increase output, value-added and farm income...



Sources of Information on Value-added Agriculture

- New Crops Center (Purdue University)
- National Center for Value-Added Agriculture (Iowa State University)
- Appropriate Technology Transfer for Rural Areas (ATTRA)
- Agricultural Marketing Research Center
- USDA Agricultural Outlook Forum 2002
- Agriculture Committees of the U.S. Senate and House of Representatives

Matters to Discuss

1 Productivity versus Competitiveness
2 The Role of Innovation
3 The International Context
4 The Increasing Importance of Value-added Agriculture
5 Private-Public Sector Cooperation in Support of Commercial Innovation

The Situation in Egypt

- Productivity in some crops has stagnated
- Post-harvest losses in volume, quality and condition are often significant
- There is high price volatility due to supply peaks and farmer's inability to hold crops
- The distribution system is fragmented
- Hotels import high percentages of their needs
- The processing industry remains focused on traditional processes (canning, dehydration)

The Situation in Egypt (cont.)

- With WTO, the processing industry faces a major threat in terms of unit costs, quality and food safety
- The processing industry is not well connected to reliable sources of raw materials
- Industrial uses are relatively few
- Exports of some traditional primary products have been disappointing
- Non-traditional exports are just starting

The Situation in Egypt (cont.)

- Value-added possibilities in fresh, processed and manufactured food are under-exploited
- For most agricultural products, Egypt is positioned in the undifferentiated primary product segment of international trade, where prices are declining, rather than in differentiated primary products, semi-processed products and consumer-oriented products, where prices are higher and rising

Implications for Research

- Since researchers do not have daily contact with the marketplace, they need to listen to players in the supply chain
- Players in the supply chain are not always aware of technological possibilities

Implications for Research (continued)

- Therefore a partnership is required, where economic actors identify problems or opportunities, and researchers apply technology to respond to them
- Perhaps the role of agricultural research in Egypt should be expanded a bit in the areas of post-harvest handling, transport, marketing and export-oriented applications

The Public-Private Partnership for Agricultural Innovation

- How are needs identified?
- How are researchable topics defined?
- How is external technology assimilated?
- Who does the research? Who oversees it?
- Who pays for the research?
- Who owns and benefits from the results?
- How are results disseminated and used?

Examples of Progress to Date

- AGERI's establishment of GESU (Genetic Engineering Services Unit)
- Services offered in DNA sequencing, fingerprinting, bacterial identification, ELISA kits, chemical analysis
- Transfer of technology for in vitro micropropagation of virus-free potatoes
- Formation of BIOGRO International in Egypt and in the U.S.A.

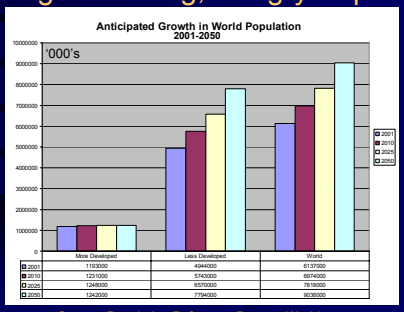
Examples of Progress to Date (continued)

- Agreement between AGERI and University of Wyoming agreement to develop the C-18 strain of Bacillus thuringiensis commercially
- Agreement between AGERI and Pioneer on introgression of C-18 genes into maize lines appropriate to Egyptian conditions
- Agreement between AGERI and ICI for maize research
- Agreement between AGERI and Asgrow on cucurbit varieties resistant to various viruses

The Immediate Challenge

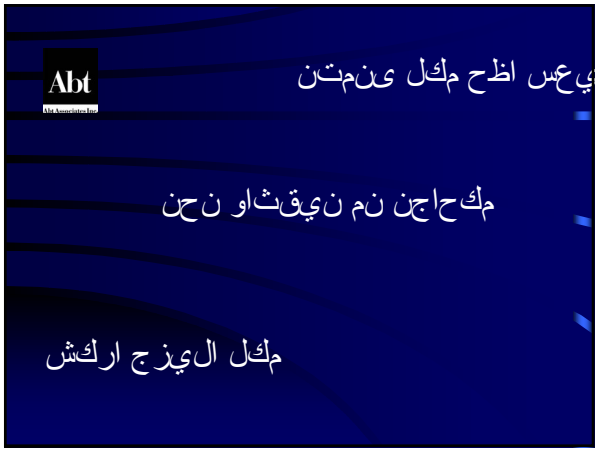
- Develop new uses and new crops
- Increase farm-level productivity
- Preserve volume, value, quality and condition on up the supply chain
- Add value to products and processes
- Benefit more small farmers
- Keep benefits down on the farm
- Stay attuned to changing marketplace

The Ultimate Challenge: Feeding a Growing, Hungry Population



	More Developed	Less Developed	World
2001	1193000	4944000	6137000
2010	1231000	5743000	6974000
2025	1248000	6570000	7818000
2050	1242000	7794000	9036000

Source: Population Reference Bureau, World Population Data Sheet 2001, Washington, 2001


Abt
نتمنى لكم حظا سعي
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